

TOOLS OF INDUSTRY

by

WILLIAMS



WILLIAMS



"VULCAN"
"SUPERRENCH"
"SUPERECTOR"
"SUPERSOCKET"
"SUPERJUSTABLE"

J·H·WILLIAMS & CO·

SUPERIOR DROP-FORGINGS & DROP-FORGED TOOLS

75-77 SPRING STREET

NEW YORK

PHONE CAnal 6-4810

WORKS
BUFFALO · N·Y·

SALES AND
GENERAL OFFICES
NEW YORK · N·Y·

DISTRICT WAREHOUSE
AND SALES OFFICE
CHICAGO · ILL.

June 21, 1937

REFERENCE

It is our pleasure to mail you in a carton to which the envelope containing this letter is attached, our new Industrial Catalog which has just come off the press and to attach hereto a discount sheet showing your cost prices on the various items illustrated and described.

The discount sheet is punched to fit the catalog where it may be conveniently kept.

In addition to this catalog we have a separate book for our automotive trade in which lines which are not applicable to the industrial field are shown. We shall be glad to send you copy of this automotive catalog if you have interest in these purely automotive items.

May we direct your attention to the fly leaf of this catalog on which new lines of goods are mentioned?

Being a loose leaf catalog it can be kept always up-to-date by the insertion of such new pages as may later be printed.

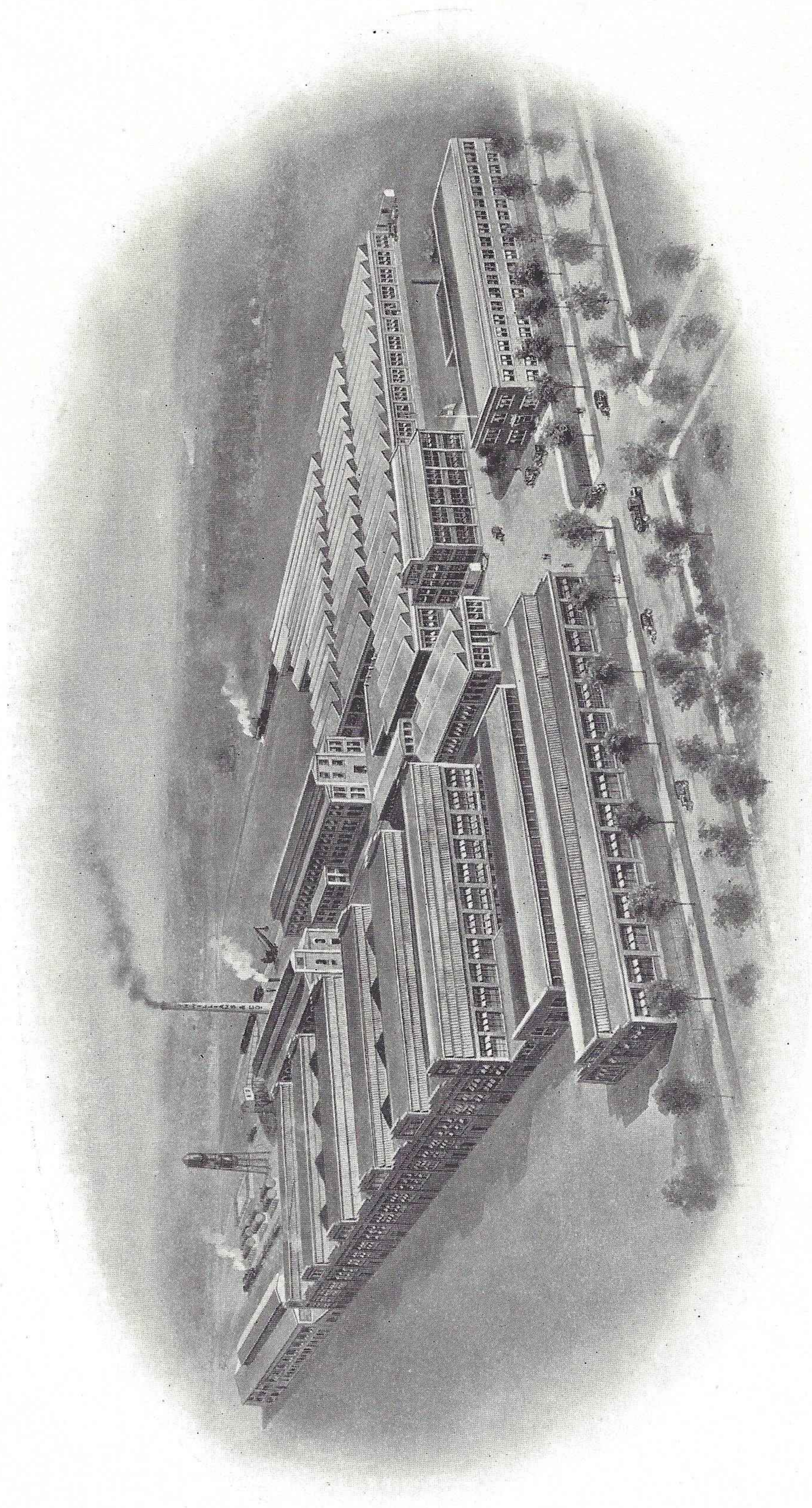
Shortly a 4" x 6" pocket edition of this book in bound form will be ready for distribution. Any future changes in the large book will always be currently made in the small catalog inasmuch as we are printing only sufficient for immediate needs.

Will you please let us know how many of these small catalogs you would like for distribution to your customers? We will then ship them to you as soon as they come off the press, a few weeks hence.

We trust you will be pleased with this new book, and are

Very truly yours,

J. H. WILLIAMS & CO.



WORKS, WAREHOUSE AND OFFICE—BUFFALO, N. Y.

SUPERIOR DROP-FORGINGS AND DROP-FORGED TOOLS

WILLIAMS

"SUPERRENCH"

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"VULCAN"



"AGRIPPA"

"SUPERSOCKET"

"SUPERJUSTABLE"

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NEW YORK, N. Y.

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Acme Road Machinery Co.
Frankfort
N. Y.

DISCOUNT SHEET
FOR
WILLIAMS' WRENCHES
AND TOOLS

Catalog Page	Wrenches	Discount	Catalog Page	Wrenches	Discount
	"SUPERRENCHES" <i>Chrome-Molybdenum</i>			CARBON STEEL WRENCHES	
60-63	Duohex-Box and Sets	45/15	20, 21	Box, Hexagon	45/45
90	Super Wrench-Chest No. 1001		28	Box, Square	
64	Adjustable Hook Spanners		34	Car	
56	Construction		18, 19	Check Nut (Thin)	
52-54	Engineers'	48/15	32	Construction	
55	General Service "S"		14-17	Engineers'	
58-59	Hex-Box		20, 21	Hex-Box	
59	Offset Socket		26	Light Service "S"	
66	Open-Box	45-15	29	Machine	
57	Structural		24, 25	"S"—Flat Handle	
53-65	Sets		22, 23	Set Screw	
65	Electrical—Midget		38, 39	Socket—Straight, or "T" Pattern	
58-59	Alloy Box Wrs		40, 41	Socket—Offset Pattern	
	"SUPERJUSTABLE" <i>Chrome-Alloy</i>		35-37	Spanner	45/45
49	All Sizes, 4 to 12"	50-10	33	Structural	
	"SUPERPLIERS" <i>Chrome-Alloy</i>		27	Textile Machine	
64	Midget No. 1519	48/15	30, 31	Tool Post	
	"SUPERSOCKETS"		42-45	Wrench Sets	
72	Detachable Sockets and Parts	48/15		ADJUSTABLE	50-10
76-77	Bantam Pattern		48	All Sizes, 4 to 12"	
78-79	Standard Pattern			ALLIGATOR PATTERN	
84-85	Heavy Duty Pattern		46	"Always Ready"—Black	20
88	Extra Heavy Duty Pattern		47	"Bull Dog" Nos. 0 to 4	60
87	Adapters		47	" " Nos. 4½ to 5	50
73-92	"Supersocket" Sets		46	"Bull Terrier" and "Twin"	60
93-95	"Supersocket" Cabinets			CHAIN PIPE and FITTINGS TONGS	
67	"Multisocket" (Doz. Lots)		101	"Vulcan Superior" & Extra Parts	50
73-74	Midget Electrical Sets		106	"Vulcan Superior" Display	
90	"Super Wrench-Chest" No. 1001			CHAIN PIPE TONGS	
	"SUPERECTOR" Reversible Ratchet		104	"Vulcan" Improved & Extra Parts	50
68-69	Wrenches, Sockets and Set	50-10	102	"Vulcan" Old Style & Extra Parts	
	"NON-SPARKING" SAFETY <i>Beryllium-Copper</i>		103	"Vulcan Supertong" & Extra Parts	
50	Single and Double Head	45	105	"Vulcan Boll-Weevil" & Extra Parts	
			105	"Vulcan Boll-Weevil Zephyr"	

CHAIN PIPE VISES—next page.



DISCOUNT SHEET FOR WILLIAMS' DROP-FORGED TOOLS

Catalog Page	Tools	Discount	
CHAIN PIPE VISES			
99	"Vulcan" Vise and Extra Parts ...	62½	
98	"Vulcan Superior" Vise and Parts .		
97	"Vulcan" Vise Stand	62½	
"AGRIPPA" TOOL HOLDERS			
117	Boring-Bars (except †Extra Cutters)	20	
116	Boring-Tool		
118	Light Boring Tool		
119	Boring-Tool Post, Adjustable		
122, 123	Knurling-Tool and Extra Knurls ..		
124, 125	Lathe Tool Set, Complete		
120	Planing-Tool		
	(except †Extra Cutters)		
110, 111	Turning-Tool, (except †Extra Cutters)		
112-113	Turning-Tool, Drop-Head		
	(except †Extra Cutters)		
121	Threading-Tool and Extra Cutters. Threading Tool with Formed-Cutter and Extra Cutters	40	
114	Cutting-Off & Side-Tool, Straight Pattern, and Extra Cutters		
115	Cutting-Off & Side-Tool, Offset Pat- tern, and Extra Cutters		
126	† Extra Cutters (High Speed Steel)		
110-113 } 116-120 }	for Turning, Boring and Planing- Tool Holders		
127	Cutter Steel, (High Speed) 3 ft. bars		
CLAMPS			
137	"C"—Body-Builders', Nos. 402-412		55
136	"C"—Light Service, Nos. 502-512.		
135	"C"—"Agrippa"	45	
134	"C"—"Vulcan"		
138	"C"—Tool Makers'		
139	Machinists'		
140, 141	Strap		
LATHE DOGS			
132	Clamp Lathe Dogs	45	
128-131	Lathe Dogs, "Vulcan"		
133	Milling Machine Dogs		
128-131	Wrenches for Safety Lathe Dogs ..		

Catalog Page	Tools and Forgings	Discount
GENERAL LINES		
156, 158	* Eye Bolts	25
142, 143	Gauges, Caliper	20
144	Handles, Balance	45
145	Handles, Crank	
146	Handles, Machine	60
152, 153	* Hooks, Hoist	
150, 151	* Rod Ends	25
154, 155	* Sockets, Wire Rope	40
147	* Thumb Nuts	50
148, 149	* Thumb Screws	
107	Tool Posts	45
107	Tool Post Rings	
107	Tool Post Wedges	

All prices subject to change without notice.

QUANTITY SCHEDULE

* Eye Bolts	
1- 99 of a size	25%
100-199 of a size	25-10%
200-499 of a size	25-10-10%
500-999 of a size	25-10-10-10%
1000 and up of a size	Special
* Hoist Hooks	
1- 99 of a size	60%
100-199 of a size	60-10%
200 and up of a size	Special
* Rod Ends	
1-99 of a size	25%
100 and up of a size	25-10%
* Rope Sockets	
1- 99 of a size	40%
100-199 of a size	40-10%
200 and up of a size	Special
* Thumb Nuts and Screws	
1- 499 of a size	50%
500- 999 of a size	50-10%
1000-4999 of a size	50-10-10%
5000 and up of a size	Special

**All Prices
F. O. B. Shipping Point**

Industrial Edition

This Industrial Catalog supersedes all previous issues, which are hereby withdrawn. A separate Catalog covering Automotive Service tools is available on request. All Prices are subject to change without notice.

Changes

"Superrenches", Double Head Engineers' pattern, now have even narrower heads and greater length. Eight larger sizes, Nos. 1038 to 1041 have been added.

List Prices have been changed for all "Superrenches", Tool Posts, Tool Post Wedges, Tool Post Rings and Handles—Balance, Crank and Machine.

Eliminations

The following stock lines, heretofore shown, have been discontinued:—

Obstruction "Superrenches" and Set 2040; Screw Wrenches—Agricultural, Machinists' Knife Handle and "Railroad Special"; all "Silent Salesman" Wrench Boards; "Bright" finish on Tool Makers' "C" Clamps; also, "Vulcan" Break-Out and Back-Up Tongs, Pipe Vise Clamp and Pipe Vise Mount.

All strictly Automotive Service Wrenches and Tools have been omitted; they are shown in separate Automotive Service Tools catalog.

In addition, a number of slow-selling items have been marked * to indicate they will be discontinued when present stock is exhausted.

Additions

Drop-Forged Wrenches—Hex-Box, Heavy pattern (Carbon steel); Adjustable (Carbon steel) and "Superjustable" (Chrome-Alloy); and the following new lines of "Superrenches"—Hex-Box, Heavy pattern; 15° Angle Duo-hex-Box—Long and Short patterns; 5 new Duo-hex-Box Sets.

"Non-Sparking" Safety Wrenches (Beryllium-Copper); Single and Double Head patterns.

"Superector" Ratchet Wrenches for heavy service. Instantly reversible. Detachable Sockets.

"Supersocket" Wrenches. An entirely new Midget line with 9/32" square drive; Straight Wall Bantam and Standard Sockets; many new sizes of Standard, Heavy Duty and Extra Heavy Duty Sockets; numerous new Handles and Parts, including Bantam and Standard Reversible Ratchets; Refrigeration Service Set.

"Vulcan" Chain Pipe Tools. "Supertongs", "Zephyr" Tongs, "Superchains", Vise Stand. Tool Holders. Formed-Cutter Threading Tools; Light Boring Tools; Straight Line Knurls.

American Standard Bolts and Nuts

Data on American Standard dimensions are given pages 6 and 7, together with the piece numbers of Williams' Wrenches fitting individual bolts, nuts, etc. In addition, the tables on pages showing each line of wrenches include American Standard nuts.

Simplified Wrench Selection

Six different patterns of Williams' standard double-head Wrenches, with openings 5/16 to 1-5/8" for all popular sizes of nuts, etc., are tabulated on pages 8 and 9. Since the individual page number on which each wrench is listed is also shown, full data is readily available.

Cuts Illustrating Our Goods

Furnished to customers; if desired, we will prepare copy for printer and check proof.

Dimensions

Unless otherwise stated, all dimensions are in inches.

Electric Welding

We are prepared to electric-weld rounds up to and including 1 1/4 inch diameter; by this means we can supply several of our stock specialties, such as Rod Ends, with shanks of any reasonable length.

**Heat-treating, Annealing, Tempering and
Case-hardening Done to Order**

We have ample facilities for handling work of this class and solicit inquiries therefor.

Chemical Analyses and Physical Tests

Our laboratories are thoroughly equipped and we offer their services for such analyzing as may be required.

Estimates for Special Forgings

Furnished on receipt of model or drawing and specifications, including quantity.

Dies for Special Forgings

Charges for Dies and Tools include only a portion of their cost. We assume the risk of breakage and the expense of repair and maintenance. Tools are fitted to our equipment and are not subject to surrender. When inactive for three years after date of last order, they may be discarded at our option, without further notice.

Guarantee

We guarantee all our product, whether Standard Stock goods, as described in this catalog, or Special Forgings made to order, to be free from imperfections of workmanship and material. We will gladly replace, without charge, any which prove defective, but we cannot allow claims for labor or damages.

Cable Address, "Willrich, New York"

Codes: Western Union, Lieber's Standard, Lieber's 5 Letter, "ABC" 5th Edition, Bentley's.

We are sole makers of the following brands
of drop-forged specialties:

"SUPERRENCH"

"SUPERECTOR"

"VULCAN"



"AGRIPPA"

"SUPERSOCKET"

"SUPERJUSTABLE"

We were first to establish a uniform line of fifteen-degree angle Wrenches, since generally adopted.

This Catalog bound in "Pocket Size", furnished on request.

WILLIAMS' DROP-FORGED WRENCHES FOR
AMERICAN STANDARD BOLTS, NUTS AND CAP SCREWS

The following tables include the more popular patterns of Williams' "Superwrenches" (Chrome-Molybdenum) and Carbon Steel Wrenches for use with the full line of American Standard Nuts, etc., 1/4 to 3 inches bolt sizes. The tables are arranged to simplify the selection of the desired type of Wrench for any given size of bolt, nut, or cap screw. Many additional Wrench patterns and sizes are available.

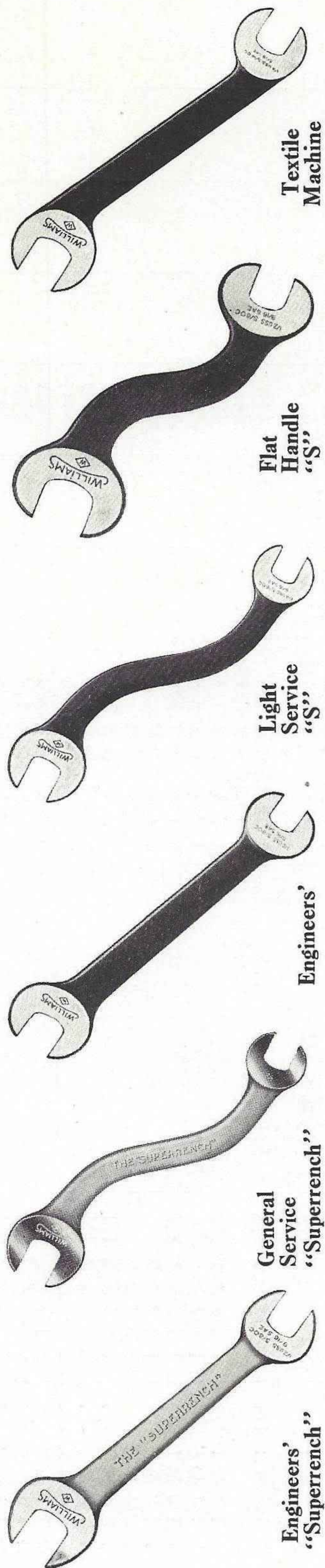
SQUARE and HEXAGON		HEXAGON		SINGLE HEAD WRENCH PATTERNS AND NUMBERS				Carbon Steel Wrenches									
Bolts, Rough and Semifd.	Nuts, Regular and Jam and Find. Bolts	Hex Head Cap Screws; Diam. Screw	Nuts (Light) 1/4 to 1/2; (Castle) 1/4 to 1 1/2; Size Bolt	Nominal Wrench Opening	"Superwrenches"		Engi-neers; See Page 54	Con-struction; See Page 56	Struc-tural; See Page 57	Engi-neers; See Page 14	Check Nut; See Page 18	Con-struction; See Page 32	Struc-tural; See Page 33	Hex Box; See Page 20	Forged Socket Wrenches		
					Hex Opening	"T" Handle; Page 38									Square Opening	Offset; Page 40	"T" Handle; Page 38	Offset; Page 41	"T" Handle; Page 39
1/4	1/4	1/4	1/4	3/8	1700	1700	700	201A	601A	601A	601A	201A	901A	801A	262D	962D	263H
5/16	5/16	5/16	5/16	7/16	1701	1701	701	201B	601	601	601	201B	901	801	263D	963D	265H
3/8	3/8	3/8	3/8	9/16	1001	1001	1	1203A	602A	602A	602A	203A	901B	802A	264A	964A	266H
7/16	7/16	7/16	7/16	5/8	1702	1702	702	1205A	603A	603A	603A	204A	903A	803A	265D	965D	267H
1/2	7/16	1/2	1/2	3/4	1703	1703	703	1205A	604A	604A	604A	205A	904A	804A	266D	966D	268H
9/16	9/16	9/16	9/16	13/16	1704	1704	704	1205A	605A	605A	605A	205	905A	805A	267D	967D	269H
5/8	9/16	5/8	5/8	7/8	1705	1705	705	1205	605	605	605	205	905B	805	268D	968D	270H
5/8	5/8	3/4	5/8	15/16	1005	1005	5	1206B	606B	606B	606B	206B	906	806B	269A	969A	271H
5/8	5/8	3/4	5/8	1	1006A	1006A	6A	1207A	607	607	607	207	907	807	270S	970S	273H
3/4	3/4	7/8	3/4	1 1/16	1706	1706	706	1208A	607A	607A	607A	207A	907A	807A	270D	970D	273H
3/4	3/4	7/8	7/8	1 1/8	1007	1007	707	1208A	608	608	608	208	908	808	271A	971A	274X
7/8	7/8	1	7/8	1 1/4	1707	1707	707	1209A	608A	608A	608A	208A	908A	808A	271D	971D	274H
7/8	7/8	1	7/8	1 1/2	1008	1008	8	1210	609	609	609	209	909	809	273A	973A	276H
1	1	1 1/8	1	5/8	1008A	1008A	8A	1211	609A	609A	609A	209A	909	809	273B	973B	276H
1	1	1 1/8	1	7/8	1009	1009	9	1212	610	610	610	210	910	810	275A	975A	277X
1 1/8	1 1/8	1 1/4	1 1/4	1 1/16	1709	1709	709	1212	610A	610A	610A	210A	910	810A	275D	975D	277P
1 1/4	1 1/4	1 1/4	1 1/4	1 1/2	1010	1010	10	1213	611	611	611	211	911	811	276A	976A	278P
1 1/4	1 1/4	1 1/4	1 1/4	1 3/4	1010A	1010A	10A	1213	611A	611A	611A	211A	911A	811A	276B	976B	278P
1 1/2	1 1/2	1 1/2	1 1/2	2	1011	1011	11	1212	612	612	612	212	912	812	277A	977A	279X
1 1/2	1 1/2	1 1/2	1 1/2	2 1/4	1011A	1011A	11A	1212	613	613	613	212	912	813	277B	977B	279X
1 5/8	1 5/8	1 5/8	1 5/8	2 1/2	1012	1012	12	1213	614	614	614	213	913	813A	278A	978A	280X
1 3/4	1 3/4	1 3/4	1 3/4	2 5/8	1013	1013	13	1213	615	615	615	214	914	815A	279A	979A	280X
2	2	2	2	3	1013A	1013A	13A	1213	616	616	616	215	915	817A	279B	979B	280X
2	2	2	2	3 1/4	1014	1014	14	1213	617	617	617	216	916	818A	279B	979B	280X
2 1/4	2 1/4	2 1/4	2 1/4	3 3/8	1015	1015	15	1213	618	618	618	217	917	819B	279B	979B	280X
2 1/2	2 1/2	2 1/2	2 1/2	3 3/4	1016	1016	16	1213	619	619	619	218	918	819A	279B	979B	280X
2 3/4	2 3/4	2 3/4	2 3/4	4	1017	1017	17	1213	620	620	620	219	919	820B	279B	979B	280X
3	3	3	3	4 1/2	1018	1018	18	1213	621	621	621	220	920	820B	279B	979B	280X

† Hex only.

SQUARE and HEXAGON			HEXAGON		Nominal Wrench Openings	DOUBLE HEAD WRENCH PATTERNS AND NUMBERS					
Bolts, Rough and Semifind.	Nuts, Regular and Jam, and Find. Bolts	Hex Head Cap Screws; Diam. Screws	Nuts (Light) 1/4 to 1/2"; Nuts (Castle) 1/4 to 1 1/2; Size Bolts			"Superwrenches"					
						Engi- neers' See Page 52	General Service "S," Page 55	Engi- neers' See Page 16	Light Service "S," Page 26	Check, or Jam Nut Page 19	Carbon Steel Wrenches Flat Handle "S," Page 24	Textile Machine See Page 27
5/16	1/4	1/4 & 5/16	1/4 & 5/16	7/16 & 1/2	1725	1077S	725	77S	623D	662D	760Y
3/8	1/4 & 5/16	1/4 & 3/8	1/4 & 3/8	7/16 & 5/8	1725A	1077C	725A	77C	624A	662E	760F
7/16	1/4 & 3/8	1/4 & 7/16	1/4 & 7/16	7/16 & 9/16	1025A	1077E	25A	77E	.....	662P	760G
5/16 & 3/8	5/16	5/16 & 3/8	5/16 & 3/8	1/2 & 5/8	1725B	1077B	725B	77B	.....	662F	761X
5/16 & 7/16	3/8	5/16 & 7/16	5/16 & 7/16	1/2 & 9/16	1726	1077	726	77	.....	662G	761
3/8 & 7/16	5/16 & 3/8	3/8 & 7/16	3/8 & 7/16	9/16 & 5/8	1727	1079S	727	79S	626S	663D	761Z
3/8 & 1/2	5/16 & 7/16	3/8 & 1/2	3/8 & 1/2	9/16 & 3/4	1728	1079E	728	79E	.....	663E	762D
7/16 & 1/2	3/8 & 7/16	7/16 & 1/2	7/16 & 1/2	5/8 & 3/4	1729	1079C	729	79C	629D	663F	762Y
7/16	3/8 & 1/2	7/16 & 9/16	7/16	5/8 & 13/16	1730	1081H	730	81H	.....	663G	762E
1/2	7/16 & 1/2	1/2 & 9/16	1/2 & 9/16	3/4 & 13/16	1731	1081B	731	81B	630B	664D	763E
1/2 & 9/16	7/16 & 9/16	1/2 & 5/8	1/2 & 9/16	3/4 & 7/8	1731A	1081A	731A	81A	630E	664E	763Y
.....	1/2 & 5/8	9/16 & 5/8	9/16	13/16 & 7/8	1731B	1083K	731B	.....	.....	664F	763F
9/16	9/16 & 5/8	5/8 & 3/4	5/8 & 3/4	7/8 & 1	1732	1083J	732	83J	633A	665D	764H
5/8	5/8 & 7/8	3/4 & 7/8	3/4 & 7/8	15/16 & 1 1/16	1733	1083B	733	83B	.....	665E	764
9/16 & 3/4	5/8 & 7/8	3/4 & 7/8	3/4 & 7/8	7/8 & 1 1/8	1034A	.....	34A	.....	.....	.....	764D
.....	9/16 & 3/4	5/8 & 7/8	5/8 & 7/8	1 & 1 1/8	1734	1085H	734	.....	.....	665F	764E
.....	5/8 & 3/4	3/4 & 7/8	3/4 & 7/8	1 & 1 1/8	1735	1085	735	85	635D	665G	.....
.....	5/8 & 7/8	3/4 & 7/8	3/4 & 7/8	1 1/16	1736A	1085J	736A	85J	.....	666N	765A
.....	.....	.....	.....	1 1/16	1037	.....	37	85C	637	666B	765B
.....	.....	.....	.....	1 1/16	1038	.....	38	.....	638	.....	.....
3/4 & 1	3/4 & 1	7/8 & 1 1/8	7/8 & 1 1/8	1 1/8	.....	.....	38A	.....	.....	667L	.....
.....	.....	.....	.....	1 1/8	1039	.....	39	.....	.....	667A	765C
7/8 & 1	7/8 & 1	1 & 1 1/8	1 & 1 1/8	1 1/8	.....	.....	39A	.....	639	667A	.....
7/8 & 1 1/8	7/8 & 1 1/8	1 & 1 1/4	1 & 1 1/4	1 1/8	.....	.....	40A	.....	640A	667N	.....
.....	.....	.....	.....	1 & 1 1/8	1041	.....	41	.....	.....	667C	.....
1	1	1 1/8 & 1 1/4	1 1/8 & 1 3/8	1 1/2	.....	.....	42A	.....	.....	.....	.....
1 & 1/8	1 & 1/8	.....	1 1/8 & 1 3/8	1 5/8	.....	.....	44	.....	.....	668C	.....
1 1/8 & 1 1/4	1 1/8 & 1 1/4	1 1/4	1 1/4 & 1 1/2	1 11/16	.....	.....	44A	.....	.....	.....	.....
.....	.....	.....	.....	1 13/16	.....	.....	46	.....	.....	.....	.....
1 1/4 & 1 1/2	1 1/4 & 1 1/2	.....	1 1/4 & 1 1/2	1 7/8	.....	.....	47A	.....	.....	.....	.....
.....	.....	.....	.....	1 7/8	.....	.....	50A	.....	.....	.....	.....
1 1/4 & 1 1/2	1 1/4 & 1 1/2	.....	.....	1 7/8	.....	.....	50B	.....	.....	.....	.....
1 1/2 & 1 3/4	1 1/2 & 1 3/4	.....	.....	2 1/4	.....	.....	54A	.....	.....	.....	.....
1 1/2 & 2	1 1/2 & 2	.....	.....	2 1/4	.....	.....	54B	.....	.....	.....	.....
1 3/4 & 2	1 3/4 & 2	.....	.....	2 5/8	.....	.....	56A	.....	.....	.....	.....
1 3/4 & 2 1/4	1 3/4 & 2 1/4	.....	.....	2 5/8	.....	.....	57B	.....	.....	.....	.....
2	2	.....	.....	3	.....	.....	57C	.....	.....	.....	.....
2 & 2 1/4	2 & 2 1/4	.....	.....	3 3/8	.....	.....	58A	.....	.....	.....	.....
2 & 2 1/2	2 & 2 1/2	.....	.....	3 3/8	.....	.....	59A	.....	.....	.....	.....
2 1/4 & 2 1/2	2 1/4 & 2 1/2	.....	.....	3 3/8	.....	.....	60A	.....	.....	.....	.....
2 1/4 & 2 3/4	2 1/4 & 2 3/4	.....	.....	3 3/4	.....	.....	61A	.....	.....	.....	.....
2 1/2 & 2 3/4	2 1/2 & 2 3/4	.....	.....	3 3/4	.....	.....	62A	.....	.....	.....	.....
2 1/2 & 3	2 1/2 & 3	.....	.....	4 1/8	.....	.....	.....	.....	.....	.....	.....
2 3/4 & 3	2 3/4 & 3	.....	.....	&	.....	.....	.....	.....	.....	.....	.....

† Hex only.

SIMPLIFIED WRENCH SELECTION



To simplify the selection of Williams' Superior Drop-Forged Wrenches, the openings and numbers of six patterns for popular sizes of U.S. and S.A.E. Standard Nuts, Hex Cap Screws and American Standard Nuts are shown below. Other Wrench sizes in these and many other patterns are available as listed herein.

For further data covering additional American Standard sizes, see tables on two preceding pages.

WRENCH PATTERNS AND NUMBERS										
Nominal Openings	For U. S. Std. Nuts; Size Bolts	For Hex. Head Cap Screws; Diameter Screws	For Amer. Std. and S. A. E. Std. Light and Light Castle Nuts; Size Bolts	For Amer. Std. and S. A. E. Std. Regular Nuts; Size Bolts	"Superrenches"			Carbon Steel Wrenches		
					Engineers' See Page 52.	General Service "S" Page 55.	Engineers' See Page 16.	Light Service "S" Page 26.	Flat Handle "S" Page 24.	Textile Machine See Page 27.
5/16 & 3/8	1/8	1/8 & 3/16	1/8	1/8	1721	1075B	721	75B	661D	661D
5/16 & 13/32	1/8	1/8 & 1/4	1/8	1/8	1021	1075A	21	75A	661A	661A
5/16 & 7/16	1/8	1/8 & 5/16	1/8	1/4	1722	1075	722	75	661E	661E
5/16 & 1/2	1/8	1/8 & 1/4	1/8	5/16	1022	1075	22	75	661B	661B
3/8 & 7/16	3/16	3/16 & 1/4	3/16	1/4	1723	1075B	723	75B	661F	661F
3/8 & 1/2	3/16	3/16 & 5/16	3/16	5/16	1723A	1075A	723A	75A	661G	661G
13/32 & 1/2	3/16	3/16 & 5/16	3/16	5/16	1023	1075	23	75	661C	661C
13/32 & 19/32	3/16	3/16 & 5/16	3/16	5/16	1024	1075	24	75	661C	661C
7/16 & 1/2	1/4	1/4 & 5/16	1/4	1/4	1725	1077S	725	77S	662D	662D
7/16 & 9/16	1/4	1/4 & 3/8	1/4	5/16	1725A	1077C	725A	77C	662E	662E
7/16 & 5/8	1/4	1/4 & 7/16	1/4	3/8	1025A	1077E	25A	77E	662P	662P
1/2 & 9/16	1/4	5/16 & 3/8	5/16	5/16	1725B	1077B	725B	77B	662F	662F
1/2 & 19/32	1/4	5/16	5/16	5/16	1025	1077B	25	77B	662B	662B

1/2 & 5/8 1/2 & 11/16 9/16 & 5/8 9/16 & 11/16 9/16 & 3/4 19/32 & 11/16 19/32 & 25/32	1/4 & 3/8 1/4 3/8 3/8 3/8 & 1/2 5/16 & 3/8 5/16 & 7/16	5/16 & 7/16 5/16 3/8 & 7/16 3/8 3/8 & 1/2 3/8 3/8	5/16 & 7/16 5/16 3/8 & 7/16 3/8 3/8 & 1/2 3/8 3/8	3/8 5/16 & 3/8 5/16 5/16 & 7/16 5/16 5/16	1726 1026 1727 1027C 1728 1027 1028	1077 1079S 1079A 1079E 1079D 1079C 1079B 1079A	726 26 727 27C 728 27 28	77 79S 79A 79E 79D 79C 81H 81E 81B 81A	662G 662C 663D 663E 663A 663B 663F 663G 664G 663C 664A 664D 664E	761 761B 761Z 762D 761C 762A
5/8 & 3/4 5/8 & 25/32 5/8 & 13/16 5/8 & 7/8 11/16 & 25/32 11/16 & 7/8 3/4 & 13/16 3/4 & 7/8	7/16 & 1/2 7/16 7/16 7/16 & 9/16 7/16 & 5/8 5/8 1/2 & 9/16 1/2 & 5/8	7/16 & 1/2 7/16 7/16 7/16 & 9/16 7/16 9/16 1/2 1/2 & 9/16	7/16 & 1/2 7/16 7/16 7/16 & 9/16 7/16 9/16 1/2 1/2 & 9/16	3/8 & 7/16 3/8 3/8 & 1/2 3/8 & 9/16 3/8 9/16 7/16 & 1/2 7/16 & 9/16	1729 1028S 1730 1730A 1029 1030 1731 1731A	1079C 1081H 1081B 1081A	729 28S 730 730A 29 30 731 731A	79C 81H 81E 81B 81A	663F 663G 664G 663C 664A 664D 664E	762Y 762E 762F 762B 762C 763E 763Y
25/32 & 7/8 25/32 & 31/32 13/16 & 7/8 13/16 & 1 7/8 & 15/16 7/8 & 31/32 7/8 & 1 7/8 & 1 1/16 7/8 & 1 1/8	7/16 & 1/2 7/16 & 9/16 1/2 1/2 1/2 & 9/16 1/2 & 5/8 1/2 1/2 & 5/8 1/2	7/16 & 1/2 7/16 7/16 7/16 & 9/16 7/16 9/16 1/2 1/2 & 9/16	7/16 & 1/2 7/16 7/16 7/16 & 9/16 7/16 9/16 1/2 1/2 & 9/16	9/16 1/2 & 9/16 1/2 & 5/8 9/16 9/16 9/16 & 5/8 9/16 & 3/4 9/16 & 3/4 9/16	1031 1032 1731B 1732 1033A 1033 1733 1034 1734	1083K 1083J 1083B 1085H	31 32 731B 732 33A 33 733 34 734	83A 83K 83J 83D 83B 83C 85H	664B 664C 664F 665D 665L 665A 665E 665B 665F	763A 763B 763F 764H 763D 763C 764 764A 764E
15/16 & 1 15/16 & 1 1/16 31/32 & 1 1/16 31/32 & 1 1/4 1 & 1 1/8 1 & 1 1/4 1 & 1 5/16 1 1/16 & 1 1/4	5/8 9/16 & 5/8 9/16 & 3/4 3/4 & 7/8 3/4 & 1 3/4 3/4 1	5/8 9/16 & 5/8 9/16 & 3/4 9/16 9/16 9/16 & 11/16 9/16 & 3/4 9/16 5/8 & 11/16 5/8 & 3/4 3/4 & 7/8	5/8 9/16 & 5/8 9/16 9/16 9/16 9/16 & 11/16 9/16 & 3/4 9/16 5/8 & 11/16 5/8 & 3/4 3/4 & 7/8	5/8 9/16 9/16 9/16 9/16 9/16 9/16 9/16 9/16 5/8 5/8 5/8	1033C 1035 1036 1735 1736- 1736A 1037	1083A 1085 1085J 1085C	33C 34A 35 36 735 736 736A 37	83A 85 85J 85C	665A 665E 665B 665F	764Z 764D 764B 764C
1 1/16 & 1 7/16 1 1/8 & 1 1/4 1 1/8 & 1 5/16 1 1/4 & 1 3/8 1 1/4 & 1 7/16 1 1/4 & 1 1/2 1 1/4 & 1 5/8 1 5/16 & 1 1/2 1 3/8 & 1 1/2 1 7/16 & 1 5/8	5/8 & 7/8 3/4 3/4 & 7/8 3/4 3/4 3/4 3/4 3/4 7/8 & 1 7/8 & 1 7/8 & 1	5/8 9/16 & 5/8 9/16 & 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4	5/8 9/16 & 5/8 9/16 9/16 9/16 9/16 9/16 9/16 9/16 9/16 9/16 9/16	5/8 9/16 9/16 9/16 9/16 9/16 9/16 9/16 9/16 9/16 9/16 9/16	1737 1037A 1739B	1085B 1085K	38 737 37A 739 39 739A 40 39A 739B 41	85B 85K	666E 666S 667A 667B 667N 667C	765B 765C

NUMERICAL INDEX OF WILLIAMS' STANDARD WRENCHES

For the convenience of customers we include this numerical index of Williams' Standard Wrenches, affording a double means of locating herein a given wrench, or establishing identities when numbers only are given.

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STANDARD SPECIFICATIONS

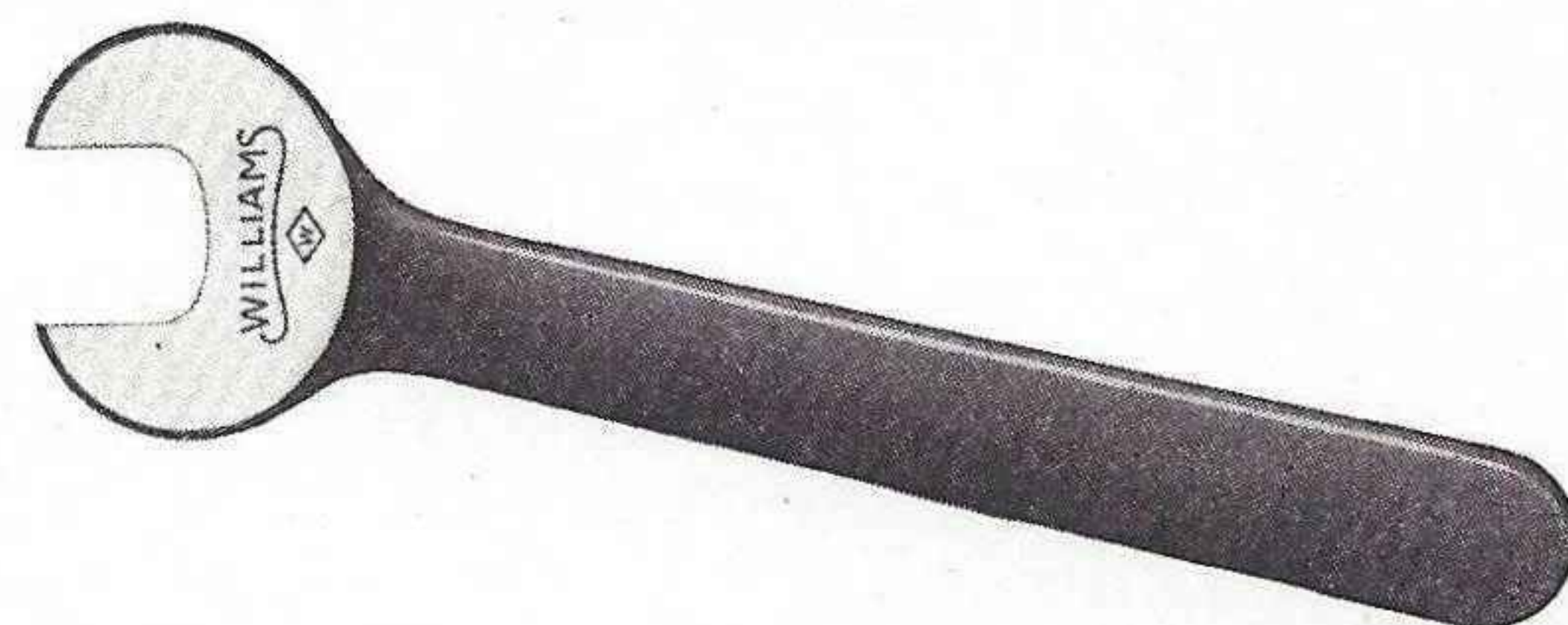
FOR

WILLIAMS' ♦ "SUPERIOR" DROP-FORGED WRENCHES
*(Carbon-Steel)***Unfinished Wrench***"Maximum Utility with
Minimum Finish"*

Openings milled, shanks smooth,
sizes stamped on heads, hardened and
shot-blasted.

**Finished Wrench***"Maximum Finish at
Medium Price"*

Openings milled, surface and edges
smooth, sizes stamped on heads, hardened
and black enameled (baked on)—heads
polished bright.



All openings are slightly larger than stated in tables to allow for clearance and variations.

Special Milling

On small quantities where special openings are specified, an extra charge will be made to cover the cost of "setting up" machines. No extra charge will be made for this special work when quantities are sufficient to cover the cost.

A sample Nut or Screw, as gauge, should accompany orders.

Special Wrenches

made to order. Prices will be quoted upon receipt of models, or drawings and specifications stating kind of finish (see above description) and quantity required.

When Ordering

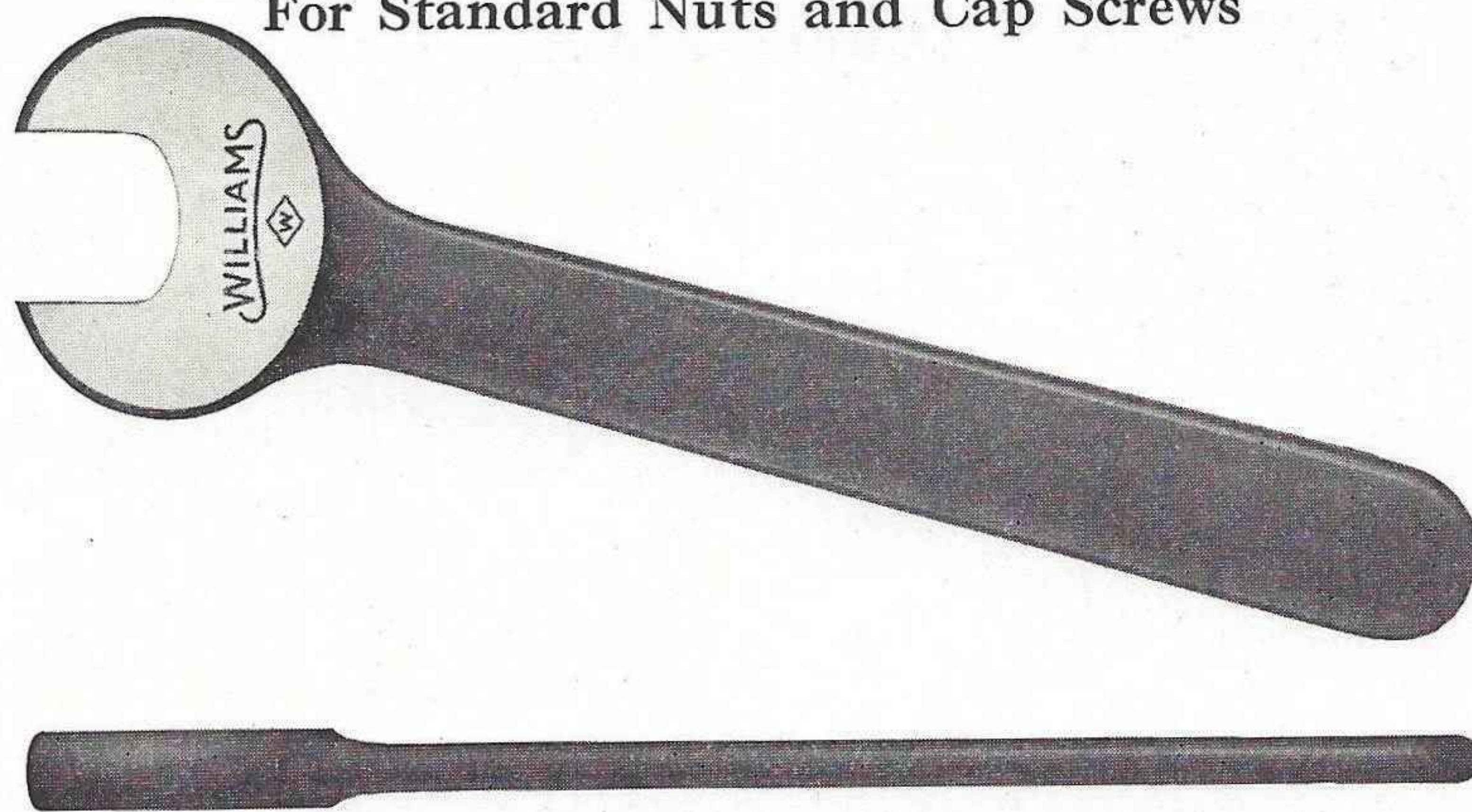
please use numbers and state whether requirements are for U. S. Standard, S. A. E. Standard, American Standard, Whitworth Standard, or m/m openings and condition of finish desired.

Finished Wrenches will be supplied, unless otherwise specified.

♦ REGISTERED TRADE MARK

♦ "SUPERIOR" ENGINEERS' WRENCHES
 (Carbon Steel)

15° Angle, Single Head
 For Standard Nuts and Cap Screws

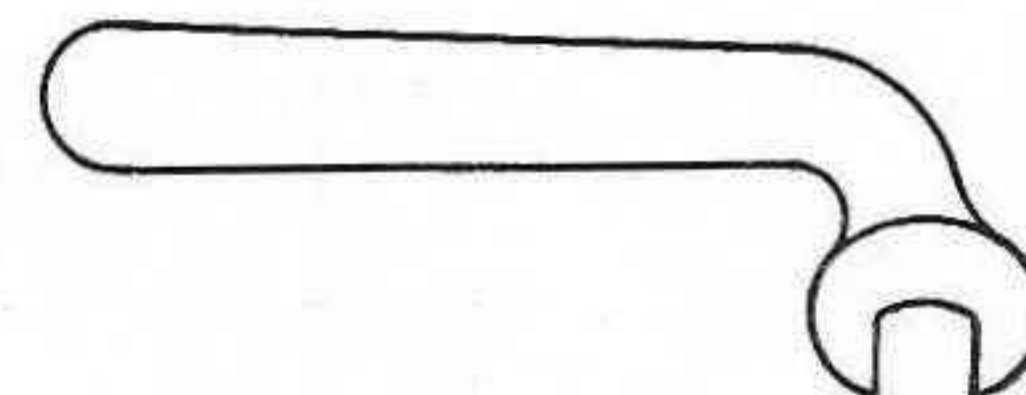


Unfinished are milled, size stamped on head, hardened and shot-blasted.

Finished are milled, surface and edges smooth, size stamped on head, hardened and black enameled (baked on)—heads bright.

Wrenches of this style but with handle tapered will be furnished on orders for the larger sizes, beginning with No. 11.

Handles can be offset above heads at angles of 45° to 90° from opening, at an additional charge; see cut at right.



(Continued on opposite page)

No.	For U.S. Std. Nut; Size Bolt	For Hex. Head Cap Screw; Diam. Screw	For S.A.E. Std. Nut; Size Bolt	For Amer. Std. Nut; Regular and Jam	Nominal Opening	Ex. treme Length, Approx.	PRICE		No.
							Unfin-ished	Fin-ished	
S000	.....	.....	.....	*Nos. 2 & 3	3/16	2 1/2	\$.22	\$.28	S000
S00	.....	.....	.....	*No. 4	1/4	2 7/8	.22	.28	S00
00	1/8	1/8	.....	*Nos. 5 & 6	5/16	3 1/2	.22	.28	00
700	.....	3/16	.....	*No. 10	3/8	4	.24	.30	700
0	3/16	.....	.....	.....	13/32	4	.24	.30	0
701	.....	1/4	1/4	1/4 & *No.12	7/16	4 5/8	.29	.36	701
1	1/4	5/16	5/16	.....	1/2	4 5/8	.29	.36	1
702	.....	3/8	3/8	5/16	9/16	5 1/2	.35	.44	702
2	5/16	.....	.....	.....	19/32	5 1/2	.35	.44	2
703	.....	7/16	7/16	3/8	5/8	6 3/8	.42	.52	703
3	3/8	.....	.....	.....	11/16	6 3/8	.42	.52	3
704	.....	1/2	1/2	7/16	3/4	7 1/4	.52	.64	704
4	7/16	.....	.....	.....	25/32	7 1/4	.52	.64	4
705	.....	9/16	.....	1/2	13/16	8 1/8	.62	.76	705
5	1/2	5/8	9/16	9/16	7/8	8 1/8	.62	.76	5
6A	.....	.....	5/8	.....	15/16	9 1/4	.76	.92	6A
6	9/16	.....	.....	.....	31/32	9 1/4	.76	.92	6
706	.....	3/4	.....	5/8	1	9 1/4	.76	.92	706

* Amer. Std. Machine-Screw and Stove-Bolt Nuts.

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

♦ “SUPERIOR” ENGINEERS’ WRENCHES
 (Carbon Steel)

15° Angle, Single Head
 For Standard Nuts and Cap Screws
 (Continued)

In stock, also, for Whitworth Standard and Metric Measure, see page 159.

The following Finished Wrenches have hole of diameter given below in end of handle:—

No.	17	17A	18	18A	19	19A	19B	19C	20	20A	20B	21A	21B	21C	22A	22B
Hole	5/8	5/8	3/4	3/4	7/8	7/8	7/8	7/8	1	1	1	1-1/8	1-1/8	1-1/8	1-1/4	1-1/4"

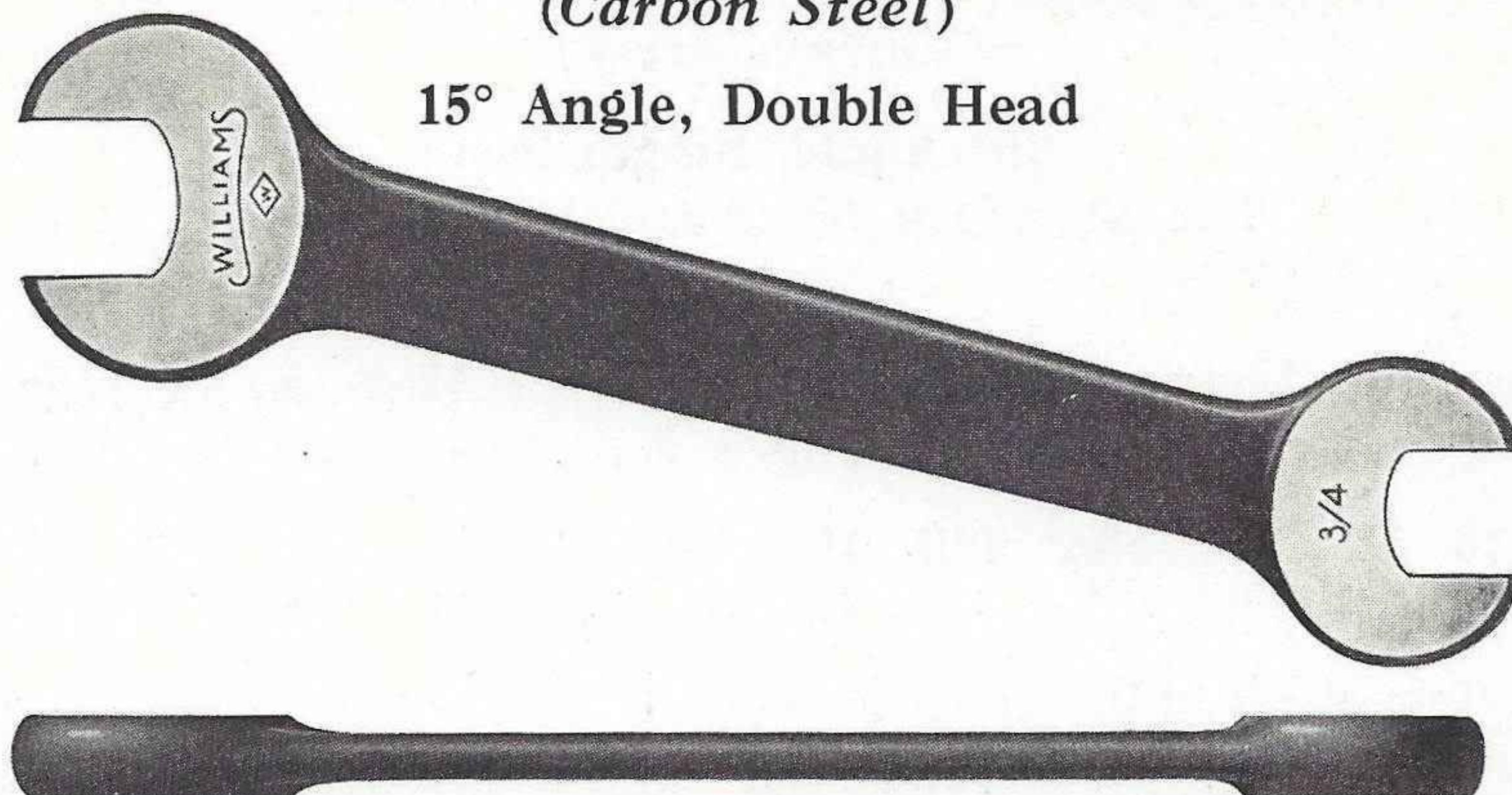
*Furnished from stock until supply is exhausted; thereafter only on special order.

No.	For U. S. Std. Nuts; Size Bolt	For Hex. Head Cap Screw; Diam. Screw	For S.A.E. Std. Nut; Size Bolt	For Amer. Std. Nut; Regular and Jam	Nominal Opening	Ex- treme Length, Approx.	PRICE		No.
							Unfin- ished	Fin- ished	
7	5/8	.....	3/4	.....	1 1/16	10 1/2	\$.96	\$ 1.14	7
707	.....	7/8	.....	3/4	1 1/8	10 1/2	.96	1.14	707
8	3/4	.....	7/8	.....	1 1/4	12	1.28	1.50	8
8A	.....	1	.....	7/8	1 5/16	12	1.28	1.50	8A
708A	.....	.....	.....	.....	1 3/8	12	1.28	1.50	708A
9	7/8	.....	1	.....	1 7/16	13 1/2	2.00	2.30	9
709	.....	1 1/8	.....	1	1 1/2	13 1/2	2.00	2.30	709
10	1	.....	1 1/8	.....	1 5/8	15	2.80	3.20	10
10A	.....	1 1/4	.....	1 1/8	1 11/16	15	2.80	3.20	10A
11	1 1/8	.....	1 1/4	.....	1 13/16	16 1/2	3.80	4.20	11
11A	.....	.....	.....	1 1/4	1 7/8	16 1/2	3.80	4.20	11A
12	1 1/4	.....	1 3/8	.....	2	18 1/4	5.20	5.70	12
12A	.....	.....	.....	1 3/8	2 1/16	18 1/4	5.20	5.70	12A
13	1 3/8	.....	1 1/2	.....	2 3/16	20	6.70	7.30	13
13A	.....	.....	.....	1 1/2	2 1/4	20	6.70	7.30	13A
14	1 1/2	.....	.....	.....	2 3/8	22	8.25	9.20	14
14A	.....	.....	.....	1 5/8	2 7/16	22	8.25	9.20	14A
15	1 5/8	.....	.....	.....	2 9/16	24	10.00	11.20	15
15A	.....	.....	.....	1 3/4	2 5/8	24	10.00	11.20	15 A
16	1 3/4	.....	.....	.....	2 3/4	27	11.90	13.40	16
16A	1 7/8	.....	.....	.....	2 15/16	27	11.90	13.40	16A
17A	.....	.....	.....	2	3	30	18.70	20.50	17A
17	2	.....	.....	.....	3 1/8	30	18.70	20.50	17
18A	.....	.....	.....	2 1/4	3 3/8	34	27.50	29.50	18A
18	2 1/4	.....	.....	.....	3 1/2	34	27.50	29.50	18
19B	.....	.....	.....	2 1/2	3 3/4	38	39.75	42.00	19B
19	2 1/2	.....	.....	.....	3 7/8	38	39.75	42.00	19
19C	.....	.....	.....	2 3/4	4 1/8	38	39.75	42.00	19C
19A	2 3/4	.....	.....	.....	4 1/4	38	39.75	42.00	19A
20B	.....	.....	.....	3	4 1/2	42	58.50	62.00	20B
20	3	.....	.....	.....	4 5/8	42	58.50	62.00	20
* 20A	3 1/4	.....	.....	.....	5	42	58.50	62.00	* 20A
* 21A	3 1/2	.....	.....	.....	5 3/8	47	107.00	114.00	* 21A
* 21B	3 3/4	.....	.....	.....	5 3/4	47	107.00	114.00	* 21B
* 21C	4	.....	.....	.....	6 1/8	47	107.00	114.00	* 21C
* 22A	4 1/2	.....	.....	.....	6 7/8	52	192.00	204.00	* 22A
* 22B	5	.....	.....	.....	7 5/8	52	192.00	204.00	* 22B

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

♦ "SUPERIOR" ENGINEERS' WRENCHES
 (Carbon Steel)



For description of Standard finishes, see page 13; weights, pages 163 to 170.
 For Whitworth Standard and Metric Measure, see pages 159 and 160.

No.	For U. S. Std. Nuts; Size Bolts	For Hex. Head Cap Screws; Diam. Screws	For S.A.E. Std. Nuts; Size Bolts	For Amer. Std. Nuts; Regular and Jam	Nominal Openings	Ex- treme Length, Approx.	PRICE		No.
							Unfin- ished	Fin- ished	
721	1/8	1/8 & 3/16	.....	.....	5/16 & 3/8	4	\$.28	\$.34	721
21	1/8 & 3/16	1/8	.....	.....	5/16 & 13/32	4	.28	.34	21
722	1/8	1/8 & 1/4	1/4	1/4	5/16 & 7/16	4 1/4	.34	.42	722
22	1/8 & 1/4	1/8 & 5/16	5/16	.....	5/16 & 1/2	4 1/4	.34	.42	22
723	.....	3/16 & 1/4	1/4	1/4	3/8 & 7/16	4 1/4	.34	.42	723
723A	1/4	3/16 & 5/16	5/16	.....	3/8 & 1/2	4 5/8	.34	.42	723A
23	3/16 & 1/4	5/16	5/16	.....	13/32 & 1/2	4 5/8	.34	.42	23
724	.....	3/16 & 3/8	3/8	5/16	3/8 & 9/16	5	.40	.50	724
24	3/16 & 5/16	.....	.....	.....	13/32 & 19/32	5	.40	.50	24
725	1/4	1/4 & 5/16	1/4 & 5/16	1/4	7/16 & 1/2	5	.40	.50	725
725A	.....	1/4 & 3/8	1/4 & 3/8	1/4 & 5/16	7/16 & 9/16	5	.40	.50	725A
25A	.....	1/4 & 7/16	1/4 & 7/16	1/4 & 3/8	7/16 & 5/8	5 1/2	.40	.50	25A
725B	1/4	5/16 & 3/8	5/16 & 3/8	5/16	1/2 & 9/16	5 1/2	.40	.50	725B
25	1/4 & 5/16	5/16	5/16	.....	1/2 & 19/32	5 1/2	.40	.50	25
726	1/4	5/16 & 7/16	5/16 & 7/16	3/8	1/2 & 5/8	6	.50	.62	726
26	1/4 & 3/8	5/16	5/16	.....	1/2 & 11/16	6	.50	.62	26
727	.....	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	9/16 & 5/8	6	.50	.62	727
27C	3/8	3/8	3/8	5/16	9/16 & 11/16	6 1/2	.50	.62	27C
27	5/16 & 3/8	.....	.....	.....	19/32 & 11/16	6 1/2	.50	.62	27
728	.....	3/8 & 1/2	3/8 & 1/2	5/16 & 7/16	9/16 & 3/4	7	.60	.74	728
28	5/16 & 7/16	.....	.....	.....	19/32 & 25/32	7	.60	.74	28
729	.....	7/16 & 1/2	7/16 & 1/2	3/8 & 7/16	5/8 & 3/4	7	.60	.74	729
28S	7/16	7/16	7/16	3/8	5/8 & 25/32	7	.60	.74	28S
29	3/8 & 7/16	.....	.....	.....	11/16 & 25/32	7 1/2	.60	.74	29
730	.....	7/16 & 9/16	7/16	3/8 & 1/2	5/8 & 13/16	8	.74	.90	730
730A	1/2	7/16 & 5/8	7/16 & 9/16	3/8 & 9/16	5/8 & 7/8	8	.74	.90	730A
30	3/8 & 1/2	5/8	9/16	9/16	11/16 & 7/8	8	.74	.90	30
731	.....	1/2 & 9/16	1/2	7/16 & 1/2	3/4 & 13/16	8 3/4	.74	.90	731
731A	1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16	3/4 & 7/8	8 3/4	.74	.90	731A
31	7/16 & 1/2	5/8	9/16	9/16	25/32 & 7/8	8 3/4	.74	.90	31
731B	1/2	9/16 & 5/8	9/16	1/2 & 9/16	13/16 & 7/8	8 3/4	.74	.90	731B
32	7/16 & 9/16	.....	.....	.....	25/32 & 31/32	9 1/2	.90	1.10	32
732	.....	9/16 & 3/4	.....	1/2 & 5/8	13/16 & 1	9 1/2	.90	1.10	732
33A	1/2	5/8	9/16 & 5/8	9/16	7/8 & 15/16	9 1/2	.90	1.10	33A
33	1/2 & 9/16	5/8	9/16	9/16	7/8 & 31/32	9 1/2	.90	1.10	33
733	1/2	5/8 & 3/4	9/16	9/16 & 5/8	7/8 & 1	9 1/2	.90	1.10	733
33C	.....	3/4	5/8	5/8	15/16 & 1	9 1/2	.90	1.10	33C
34	1/2 & 5/8	5/8	9/16 & 3/4	9/16	7/8 & 1 1/16	10 3/4	1.12	1.36	34
734	1/2	5/8 & 7/8	9/16	9/16 & 3/4	7/8 & 1 1/8	10 3/4	1.12	1.36	734
34A	5/8	.....	5/8 & 3/4	.....	15/16 & 1 1/16	10 3/4	1.12	1.36	34A

♦ REGISTERED TRADE MARK

♦ "SUPERIOR" ENGINEERS' WRENCHES
(Carbon Steel)

15° Angle, Double Head—(Continued)

No.	For U. S. Std. Nuts; Size Bolts	For Hex Head Cap Screws; Diam. Screws	For S. A. E. Std. Nuts; Size Bolts	For Amer. Std. Nuts; Regular and Jam	Nominal Openings	Ex- treme Length, Approx.	PRICE		No.
							Unfin- ished	Fin- ished	
35	9/16 & 5/8	.....	3/4	.....	31/32 & 1 1/16	10 3/4	\$ 1.12	\$ 1.36	35
735	.....	3/4 & 7/8	.....	5/8 & 3/4	1 & 1 1/8	10 3/4	1.12	1.36	735
36	9/16 & 3/4	.....	7/8	.....	31/32 & 1 1/4	12	1.62	1.92	36
736	.....	3/4	7/8	5/8	1 & 1 1/4	12	1.62	1.92	736
736A	.....	3/4 & 1	.....	5/8 & 7/8	1 & 1 5/16	12	1.62	1.92	736A
37	5/8 & 3/4	.....	3/4 & 7/8	.....	1 1/16 & 1 1/4	12	1.62	1.92	37
737	.....	7/8	7/8	3/4	1 1/8 & 1 1/4	12	1.62	1.92	737
37A	.....	7/8 & 1	.....	3/4 & 7/8	1 1/8 & 1 5/16	12	1.62	1.92	37A
38	5/8 & 7/8	.....	3/4 & 1	.....	1 1/16 & 1 7/16	13 1/2	2.40	2.80	38
*738	.....	7/8	.....	3/4	1 1/8 & 1 3/8	13 1/2	2.40	2.80	*738
38A	.....	7/8 & 1 1/8	.....	3/4 & 1	1 1/8 & 1 1/2	13 1/2	2.40	2.80	38A
739	3/4	.....	7/8	.....	1 1/4 & 1 3/8	13 1/2	2.40	2.80	739
39	3/4 & 7/8	.....	7/8 & 1	.....	1 1/4 & 1 7/16	13 1/2	2.40	2.80	39
739A	3/4	1 1/8	7/8	1	1 1/4 & 1 1/2	13 1/2	2.40	2.80	739A
39A	.....	1	.....	7/8 & 1	1 5/16 & 1 1/2	13 1/2	2.40	2.80	39A
*739B	.....	1 1/8	.....	1	1 3/8 & 1 1/2	13 1/2	2.40	2.80	*739B
40	3/4 & 1	.....	7/8 & 1 1/8	.....	1 1/4 & 1 5/8	15 1/2	3.30	3.80	40
40A	.....	1 & 1 1/4	.....	7/8 & 1 1/8	1 5/16 & 1 11/16	15 1/2	3.30	3.80	40A
41	7/8 & 1	.....	1 & 1 1/8	.....	1 7/16 & 1 5/8	15 1/2	3.30	3.80	41
42	7/8 & 1 1/8	.....	1 & 1 1/4	.....	1 7/16 & 1 13/16	17	4.60	5.30	42
42A	.....	1 1/8 & 1 1/4	.....	1 & 1 1/8	1 1/2 & 1 11/16	17	4.60	5.30	42A
42B	.....	1 1/8	.....	1 & 1 1/4	1 1/2 & 1 7/8	17	4.60	5.30	42B
43	1 & 1 1/8	.....	1 1/8 & 1 1/4	.....	1 5/8 & 1 13/16	17	4.60	5.30	43
44	1 & 1 1/4	.....	1 1/8 & 1 3/8	.....	1 5/8 & 2	19	6.25	7.20	44
44A	.....	1 1/4	.....	1 1/8 & 1 1/4	1 11/16 & 1 7/8	19	6.25	7.20	44A
45	1 1/8 & 1 1/4	.....	1 1/4 & 1 3/8	.....	1 13/16 & 2	19	6.25	7.20	45
46A	.....	1 1/4	.....	1 1/8 & 1 1/2	1 11/16 & 2 1/4	21	9.30	10.50	46A
46	1 1/8 & 1 3/8	.....	1 1/4 & 1 1/2	.....	1 13/16 & 2 3/16	21	9.30	10.50	46
47A	.....	.....	1 1/4 & 1 1/2	1 1/4 & 1 1/2	1 7/8 & 2 1/4	21	9.30	10.50	47A
47	1 1/4 & 1 3/8	.....	1 3/8 & 1 1/2	.....	2 & 2 3/16	21	9.30	10.50	47
48	1 1/4 & 1 1/2	.....	1 3/8	.....	2 & 2 3/8	23	12.50	14.00	48
49	1 3/8 & 1 1/2	.....	1 1/2	.....	2 3/16 & 2 3/8	23	12.50	14.00	49
*50A	.....	.....	.....	1 1/4 & 1 3/4	1 7/8 & 2 5/8	25	16.25	18.00	*50A
*50	1 3/8 & 1 5/8	.....	1 1/2	.....	2 3/16 & 2 9/16	25	16.25	18.00	*50
*50B	.....	.....	.....	1 1/2 & 1 3/4	2 1/4 & 2 5/8	25	16.25	18.00	*50B
*51	1 1/2 & 1 5/8	.....	.....	.....	2 3/8 & 2 9/16	25	18.00	19.80	*51
*52	1 1/2 & 1 3/4	.....	.....	.....	2 3/8 & 2 3/4	27	20.00	22.00	*52
*53	1 5/8 & 1 3/4	.....	.....	.....	2 9/16 & 2 3/4	27	22.00	24.00	*53
*54A	.....	.....	.....	1 1/2 & 2	2 1/4 & 3	30	26.25	28.50	*54A
*54	1 5/8 & 2	.....	.....	.....	2 9/16 & 3 1/8	30	26.25	28.50	*54
*54B	.....	.....	.....	1 3/4 & 2	2 5/8 & 3	30	26.25	28.50	*54B
*55	1 3/4 & 2	.....	.....	.....	2 3/4 & 3 1/8	32	28.75	31.00	*55
*56A	.....	.....	.....	1 3/4 & 2 1/4	2 5/8 & 3 3/8	34	37.50	40.00	*56A
*56	1 3/4 & 2 1/4	.....	.....	.....	2 3/4 & 3 1/2	34	37.50	40.00	*56
*57B	.....	.....	.....	2 & 2 1/4	3 & 3 3/8	36	44.25	47.00	*57B
*57	2 & 2 1/4	.....	.....	.....	3 1/8 & 3 1/2	36	44.25	47.00	*57
*57A	2 & 2 1/2	.....	.....	.....	3 1/8 & 3 7/8	38	53.00	56.00	*57A
*57C	.....	.....	.....	2 & 2 1/2	3 & 3 3/4	38	53.00	56.00	*57C
*58A	.....	.....	.....	2 1/4 & 2 1/2	3 3/8 & 3 3/4	38	59.00	62.00	*58A
*58	2 1/4 & 2 1/2	.....	.....	.....	3 1/2 & 3 7/8	38	59.00	62.00	*58
*59A	.....	.....	.....	2 1/4 & 2 3/4	3 3/8 & 4 1/8	38	59.00	62.00	*59A
*59	2 1/4 & 2 3/4	.....	.....	.....	3 1/2 & 4 1/4	38	59.00	62.00	*59
*60A	.....	.....	.....	2 1/2 & 2 3/4	3 3/4 & 4 1/8	40	71.00	75.00	*60A
*60	2 1/2 & 2 3/4	.....	.....	.....	3 7/8 & 4 1/4	40	71.00	75.00	*60
*61A	.....	.....	.....	2 1/2 & 3	3 3/4 & 4 1/2	43	89.00	94.00	*61A
*61	2 1/2 & 3	.....	.....	.....	3 7/8 & 4 5/8	43	89.00	94.00	*61
*62A	.....	.....	.....	2 3/4 & 3	4 1/8 & 4 1/2	43	89.00	94.00	*62A
*62	2 3/4 & 3	.....	.....	.....	4 1/4 & 4 5/8	43	89.00	94.00	*62
*63	2 3/4 & 3 1/2	.....	.....	.....	4 1/4 & 5 3/8	47	126.00	135.00	*63
*64	3 & 3 1/2	.....	.....	.....	4 5/8 & 5 3/8	47	146.00	155.00	*64

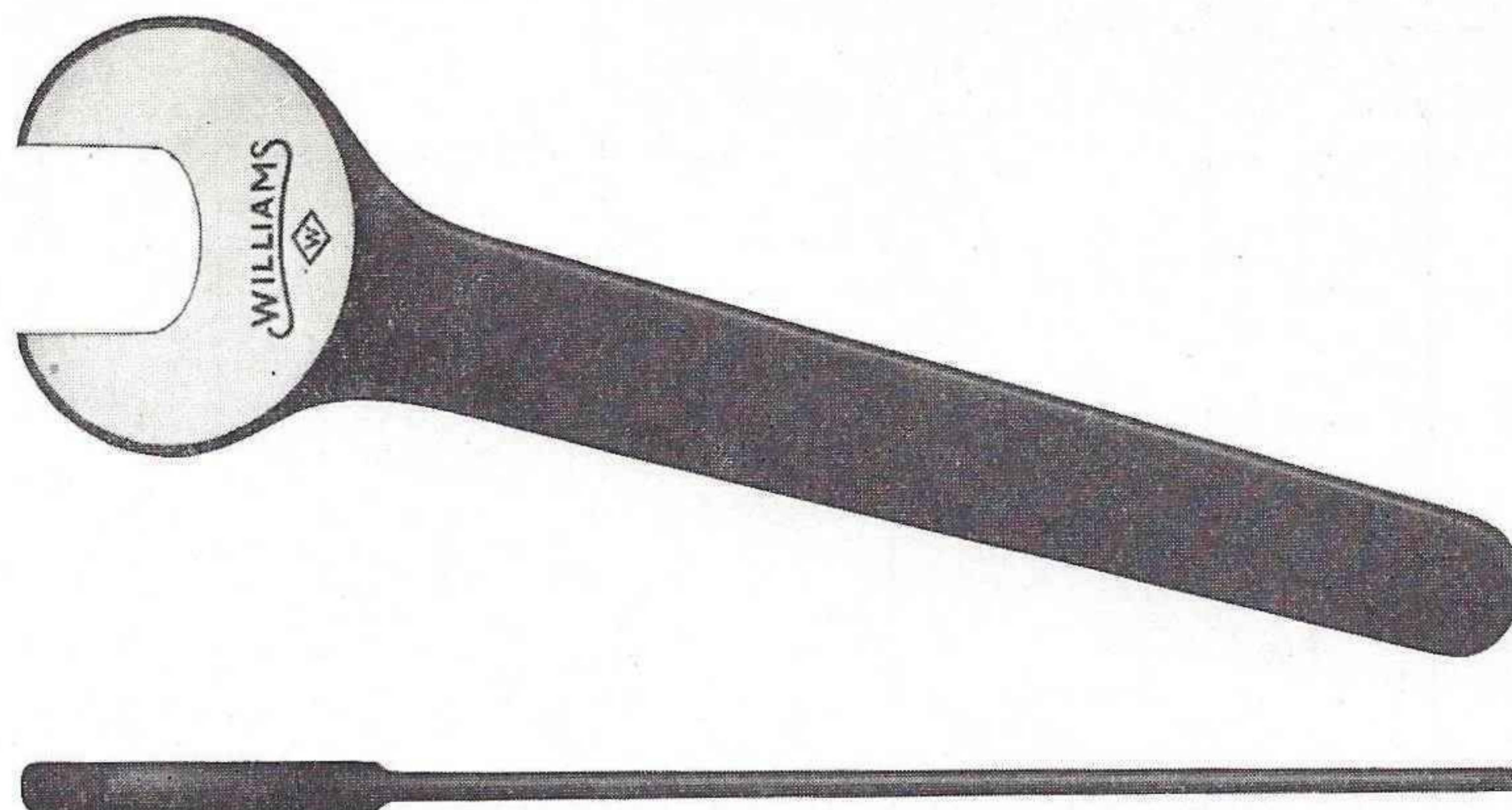
*Furnished from stock till supply is exhausted; thereafter only on special order.

♦ REGISTERED TRADE MARK

✦ "SUPERIOR" CHECK NUT, OR "THIN" WRENCHES
 (Carbon Steel)

15° Angle, Single Head

For Check, Jam, or Lock Nuts, etc.



This class of Wrench is guaranteed amply strong for its intended purpose, but is not designed for severe service.

For Whitworth Standard and Metric Measure, see page 160.

Unfinished are milled, size stamped on head, hardened and shot-blasted.

Finished are milled, surface and edges smooth, size stamped on head, hardened and black enameled (baked on)—heads bright.

No.	For U. S. Std. Jam Nut; Size Bolt	For S.A.E. Std. Nut; Size Bolt	For American Standard Jam Nut; Size Bolt	Nominal Opening	Ex- treme Length, Approx.	Thick- ness Head	PRICE		No.
							Unfin- ished	Fin- ished	
601A	.....	1/4	1/4	7/16	4	5/32	\$.30	\$.36	601A
601	1/4	5/16	.....	1/2	4	5/32	.30	.36	601
602A	.....	3/8	5/16	9/16	4 1/2	11/64	.37	.44	602A
602	5/16	.....	.....	19/32	4 1/2	11/64	.37	.44	602
603A	.....	7/16	3/8	5/8	5 1/8	3/16	.44	.52	603A
603	3/8	.....	.....	11/16	5 1/8	3/16	.44	.52	603
604A	.....	1/2	7/16	3/4	5 7/8	7/32	.55	.64	604A
604	7/16	.....	.....	25/32	5 7/8	7/32	.55	.64	604
605A	.....	.....	1/2	13/16	6 5/8	1/4	.66	.76	605A
605	1/2	9/16	9/16	7/8	6 5/8	1/4	.66	.76	605
606	9/16	.....	.....	31/32	7 1/2	9/32	.78	.90	606
606B	.....	.....	5/8	1	7 1/2	9/32	.78	.90	606B
607	5/8	3/4	.....	1 1/16	8 1/2	5/16	.94	1.08	607
607A	.....	.....	3/4	1 1/8	8 1/2	5/16	.94	1.08	607A
608	3/4	7/8	.....	1 1/4	10	3/8	1.20	1.36	608
608A	.....	.....	7/8	1 5/16	10	3/8	1.20	1.36	608A
609	7/8	1	.....	1 7/16	11 5/8	7/16	1.66	1.84	609
609A	.....	.....	1	1 1/2	11 5/8	7/16	1.66	1.84	609A
610	1	1 1/8	.....	1 5/8	13 1/4	1/2	2.40	2.60	610
610A	.....	.....	1 1/8	1 11/16	13 1/4	1/2	2.40	2.60	610A

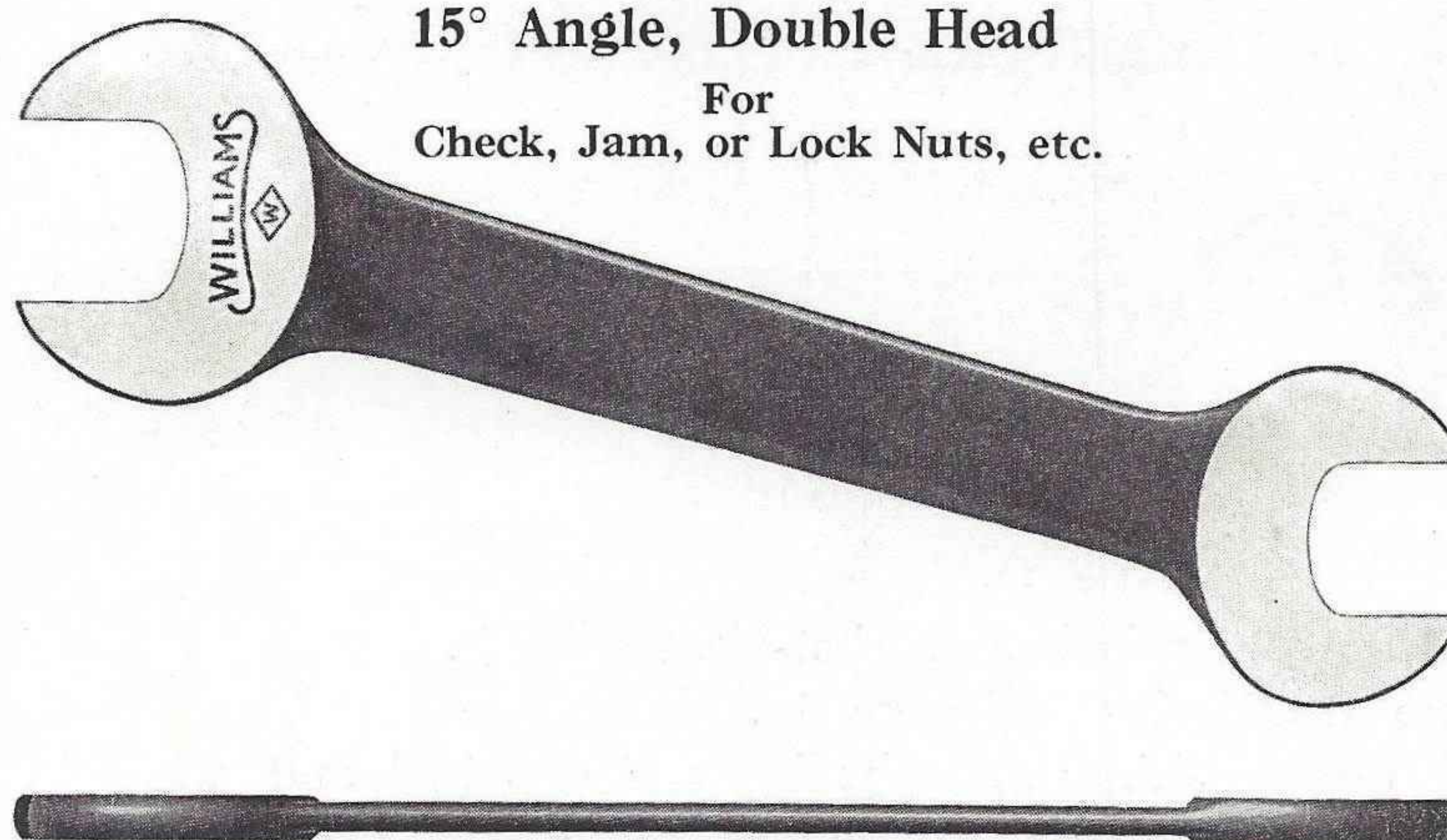
Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

♦ "SUPERIOR" CHECK NUT, OR "THIN" WRENCHES
 (Carbon-Steel)

15° Angle, Double Head

For
 Check, Jam, or Lock Nuts, etc.



This class of Wrench is guaranteed amply strong for its intended purpose, but it is not designed for severe service. For further description, see opposite page.

*Furnished from stock until supply is exhausted; thereafter only on special order.

No.	For U. S. Std. Jam Nuts; Size Bolts	For S.A.E. Std. Nuts; Size Bolts	For American Standard Jam Nuts; Size Bolts	Nominal Openings	Extreme Length, Approx.	Thick- ness Heads	PRICE		No.
							Unfin- ished	Fin- ished	
623	3/16 & 1/4	5/16	.....	13/32 & 1/2	4 5/8	5/32	\$.42	\$.50	623
*623D	1/4	1/4 & 5/16	1/4	7/16 & 1/2	4 5/8	5/32	.42	.50	*623D
624	3/16 & 5/16	.....	.....	13/32 & 19/32	4 3/4	5/32	.42	.50	624
*624A	.....	1/4 & 3/8	1/4 & 5/16	7/16 & 9/16	4 3/4	5/32	.42	.50	*624A
625	1/4 & 5/16	5/16	.....	1/2 & 19/32	4 3/4	5/32	.42	.50	625
626	1/4 & 3/8	5/16	.....	1/2 & 11/16	6	3/16	.54	.64	626
626S	.....	3/8 & 7/16	5/16 & 3/8	9/16 & 5/8	6	3/16	.54	.64	626S
626X	3/8	3/8	5/16	9/16 & 11/16	6	3/16	.54	.64	626X
627	5/16 & 3/8	.....	.....	19/32 & 11/16	6	3/16	.54	.64	627
628	5/16 & 7/16	.....	.....	19/32 & 25/32	6 3/4	3/16	.60	.72	628
*629D	.....	7/16 & 1/2	3/8 & 7/16	5/8 & 3/4	6 3/4	3/16	.60	.72	*629D
629	3/8 & 7/16	.....	.....	11/16 & 25/32	6 3/4	3/16	.60	.72	629
630	3/8 & 1/2	9/16	9/16	11/16 & 7/8	7 1/2	7/32	.66	.80	630
*630B	.....	1/2	7/16 & 1/2	3/4 & 13/16	7 1/2	7/32	.66	.80	*630B
*630E	1/2	1/2 & 9/16	7/16 & 9/16	3/4 & 7/8	7 1/2	7/32	.66	.80	*630E
631	7/16 & 1/2	9/16	.....	25/32 & 7/8	7 1/2	7/32	.66	.80	631
*632	7/16 & 9/16	.....	.....	25/32 & 31/32	8 3/4	1/4	.96	1.12	*632
*633A	.....	.....	1/2 & 5/8	13/16 & 1	8 3/4	1/4	.96	1.12	*633A
*633	1/2 & 9/16	9/16	9/16	7/8 & 31/32	8 3/4	1/4	.96	1.12	*633
634	1/2 & 5/8	9/16 & 3/4	9/16	7/8 & 1 1/16	8 7/8	1/4	.96	1.12	634
*632X	.....	5/8	5/8	15/16 & 1	8 7/8	1/4	.96	1.12	*632X
*635	9/16 & 5/8	3/4	.....	31/32 & 1 1/16	10 1/2	9/32	1.48	1.68	*635
*636	9/16 & 3/4	7/8	.....	31/32 & 1 1/4	10 1/2	9/32	1.48	1.68	*636
*635D	.....	.....	5/8 & 3/4	1 & 1 1/8	10 1/2	9/32	1.48	1.68	*635D
635E	3/4	7/8	5/8	1 & 1 1/4	10 1/2	9/32	1.48	1.68	635E
637	5/8 & 3/4	3/4 & 7/8	.....	1 1/16 & 1 1/4	10 1/2	9/32	1.48	1.68	637
*635G	3/4	7/8	3/4	1 1/8 & 1 1/4	10 1/2	9/32	1.48	1.68	*635G
*637A	.....	.....	3/4 & 7/8	1 1/8 & 1 5/16	10 1/2	9/32	1.48	1.68	*637A
*638	5/8 & 7/8	3/4 & 1	.....	1 1/16 & 1 7/16	12 1/2	3/8	2.35	2.60	*638
639	3/4 & 7/8	7/8 & 1	.....	1 1/4 & 1 7/16	12 1/2	3/8	2.35	2.60	639
640	3/4 & 1	7/8 & 1 1/8	.....	1 1/4 & 1 5/8	12 1/2	3/8	2.35	2.60	640
*640A	.....	.....	7/8 & 1	1 5/16 & 1 1/2	12 1/2	3/8	2.35	2.60	*640A

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

♦ "SUPERIOR" HEX-BOX WRENCHES

(Carbon Steel)

REGULAR PATTERN—15° ANGLE



Unhardened are broached and shot-blasted only.

Finished—see description on page 13.

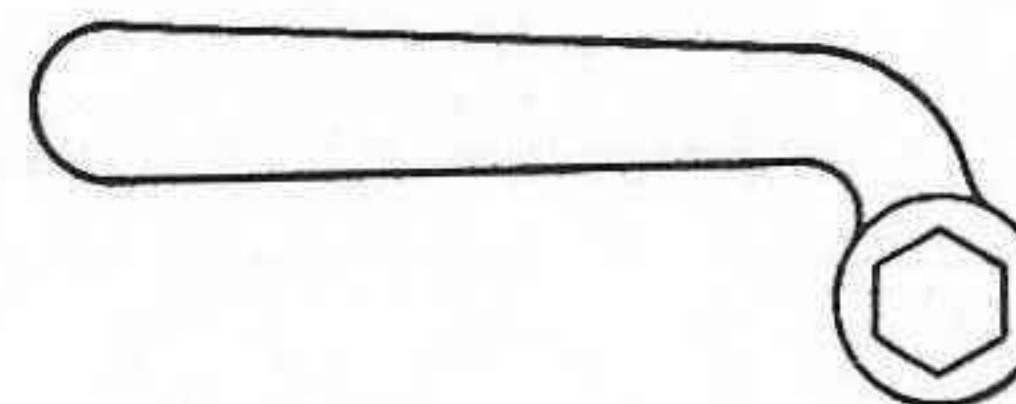
Designed for use requiring an exceedingly strong tool and where head clearance is limited. Two Patterns—Regular for general work, Heavy for severe service. Wrenches larger than No. 810 Regular and No. H809 Heavy have tapered handle.

These Wrenches can also be furnished, to order, with 12-point openings.

For Whitworth Standard, see page 161.

Handle can be offset above head at angles of 45° to 90° from opening, at an additional charge; see illustration at right.

(Continued on opposite page)



No.	U.S. Std. Nut	Hex. Head Cap Screw	S.A.E. Std. Nut	Amer. Std. Regular Nut	Nominal Opening Across Flats	Extreme Length, Approx.	Head		PRICE		No.
							Thick-ness	Outside Diam.	Un-hard.	Fin-ished	
800	3/16	3/16	....	....	13/32	3 1/2	3/16	3/4	\$.26	\$.36	800
801A	....	1/4	1/4	1/4	7/16	4	1/4	29/32	.30	.42	801A
801	1/4	5/16	....	....	1/2	4	1/4	29/32	.30	.42	801
802A	....	3/8	3/8	5/16	9/16	4 7/8	9/32	1 3/32	.36	.50	802A
802	5/16	....	....	....	19/32	4 7/8	9/32	1 3/32	.36	.50	802
803A	....	7/16	7/16	3/8	5/8	5 7/8	5/16	1 1/4	.42	.58	803A
803	3/8	....	....	....	11/16	5 7/8	5/16	1 1/4	.42	.58	803
804A	....	1/2	1/2	7/16	3/4	6 7/8	11/32	1 3/8	.50	.70	804A
804	7/16	....	....	....	25/32	6 7/8	11/32	1 3/8	.50	.70	804
805A	....	9/16	....	1/2	13/16	7 3/4	25/64	1 1/2	.60	.84	805A
805	1/2	5/8	9/16	9/16	7/8	7 3/4	25/64	1 1/2	.60	.84	805
806	9/16	....	....	....	31/32	8 3/4	7/16	1 5/8	.72	1.00	806
806B	....	3/4	....	5/8	1	8 3/4	7/16	1 5/8	.72	1.00	806B
807	5/8	....	3/4	....	1 1/16	9 7/8	31/64	1 3/4	.90	1.24	807
807A	....	7/8	....	3/4	1 1/8	9 7/8	31/64	1 3/4	.90	1.24	807A
*808	3/4	....	7/8	....	1 1/4	11 1/2	9/16	2 1/16	1.16	1.56	*808
*808A	....	1	....	7/8	1 5/16	11 1/2	9/16	2 1/16	1.16	1.56	*808A
*809	7/8	....	1	....	1 7/16	13 3/8	21/32	2 3/8	1.56	2.08	*809
*809A	....	1 1/8	....	1	1 1/2	13 3/8	21/32	2 3/8	1.56	2.08	*809A
*810	1	....	1 1/8	....	1 5/8	15 1/4	3/4	2 5/8	2.10	2.80	*810
*810A	....	1 1/4	....	1 1/8	1 11/16	15 1/4	3/4	2 5/8	2.10	2.80	*810A
*811	1 1/8	....	1 1/4	....	1 13/16	17 1/8	13/16	2 7/8	2.80	3.70	*811
*811A	....	....	....	1 1/4	1 7/8	17 1/8	13/16	2 7/8	2.80	3.70	*811A
*812	1 1/4	....	1 3/8	....	2	19	15/16	3 1/4	3.70	4.80	*812
*813	1 3/8	....	1 1/2	....	2 3/16	21	1	3 1/2	4.70	6.00	*813
*813A	....	....	....	1 1/2	2 1/4	21	1	3 1/2	4.70	6.00	*813A
*814	1 1/2	....	....	....	2 3/8	23	1 1/16	3 3/4	6.00	7.50	*814
*815	1 5/8	....	....	....	2 9/16	25	1 1/8	4	7.50	9.20	*815
*815A	....	....	....	1 3/4	2 5/8	25	1 1/8	4	7.50	9.20	*815A
*816	1 3/4	....	....	....	2 3/4	27	1 1/4	4 1/4	9.80	12.50	*816

* Furnished from stock until supply is exhausted.

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

★ “SUPERIOR” HEX-BOX WRENCHES

(Carbon Steel)

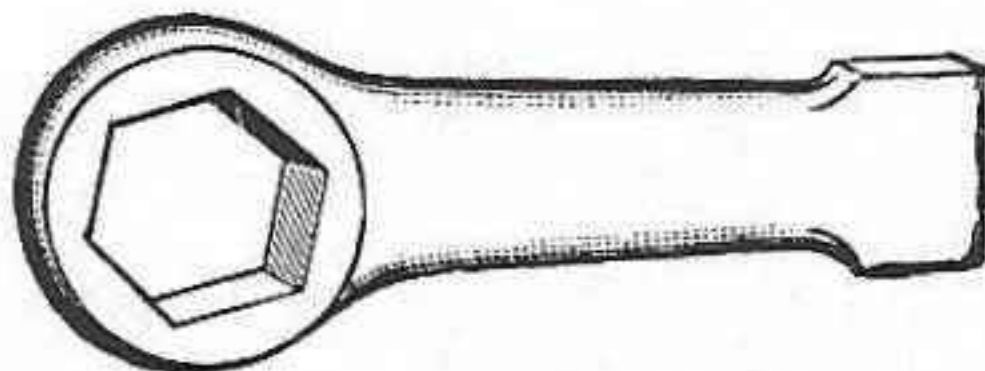
REGULAR PATTERN—15° ANGLE

(Continued)

The following long Finished Wrenches have hole of size given below in end of handle:—

Number,	817	817A	818	818A	819	819A	819AC	819B	820	820B
Hole; diam.	5/8	5/8	3/4	3/4	7/8	7/8	7/8	7/8	1	1 inch

† At extra charge Nos. 818 to 820B inclusive are also furnished with “striking-face” on end of shorter handle as illustrated at right; extreme lengths as follows—

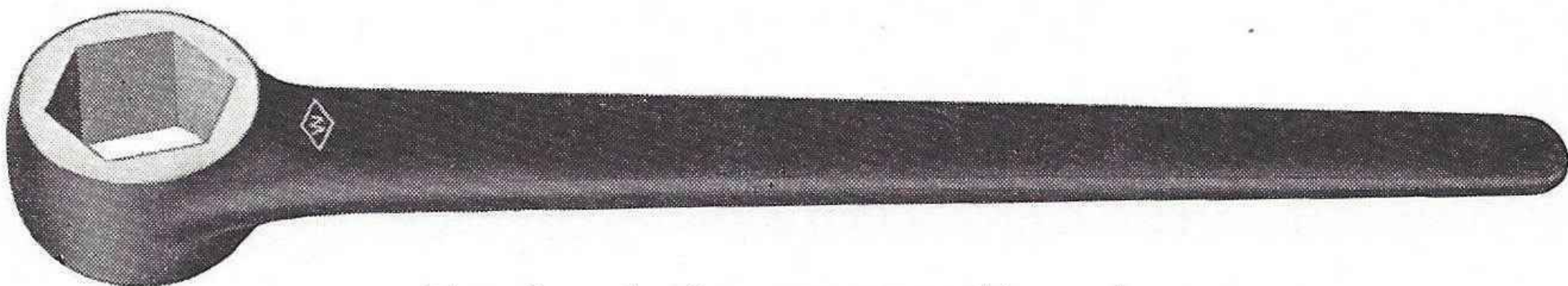


Number,	818	818A	819	819B	819A	819AC	820	820B
Length,	18-1/2	18-1/2	19-1/2	19-1/2	20-1/4	20-1/4	21	21 in.

*Furnished from stock until supply is exhausted.

No.	U.S. Std. Nut	Hex. Head Cap Screw	S.A.E. Std. Nut	Amer. Std. Regular Nut	Nominal Opening Across Flats	Extreme Length, Approx.	Head		PRICE		No.
							Thick-ness	Outside Diam.	Un-hard.	Fin-ished	
*817A	.....	.....	.....	2	3	30	1 3/8	4 3/4	\$13.00	\$17.00	*817A
*817	2	.....	.....	.....	3 1/8	30	1 3/8	4 3/4	13.00	17.00	*817
†*818A	.....	.....	.....	2 1/4	3 3/8	†34	1 1/2	5 1/4	17.00	22.00	†*818A
†*818	2 1/4	.....	.....	.....	3 1/2	†34	1 1/2	5 1/4	17.00	22.00	†*818
†*819B	.....	.....	.....	2 1/2	3 3/4	†38	1 5/8	5 7/8	23.00	29.00	†*819B
†*819	2 1/2	.....	.....	.....	3 7/8	†38	1 5/8	5 7/8	23.00	29.00	†*819
†*819AC	.....	.....	.....	2 3/4	4 1/8	†42	1 3/4	6 1/2	30.00	37.00	†*819AC
†*819A	2 3/4	.....	.....	.....	4 1/4	†42	1 3/4	6 1/2	30.00	37.00	†*819A
†*820B	.....	.....	.....	3	4 1/2	†46	1 7/8	7	40.00	50.00	†*820B
†*820	3	.....	.....	.....	4 5/8	†46	1 7/8	7	40.00	50.00	†*820

★ “SUPERIOR” HEX-BOX WRENCHES—HEAVY PATTERN



For description see opposite page

No.	U. S. Std. Nut	Hex Cap Screw	S.A.E. Std. Nut	Amer. Std. Reg. Nut	Nominal Opening Across Flats	Extreme Length, Apprx.	Head		PRICE		No.
							Thick-ness	Outside Diam.	Un-hard.	Fin-ished	
H 808	3/4	....	7/8	....	1 1/4	11 1/2	13/16	2 1/16	\$1.70	\$2.20	H 808
H 808A	....	1	....	7/8	1 5/16	11 1/2	13/16	2 1/16	1.70	2.20	H 808A
H 809	7/8	....	1	....	1 7/16	13 3/8	15/16	2 3/8	2.30	2.95	H 809
H 809A	....	1 1/8	....	1	1 1/2	13 3/8	15/16	2 3/8	2.30	2.95	H 809A
H 810	1	....	1 1/8	....	1 5/8	15 1/4	1 1/8	2 5/8	3.00	3.90	H 810
H 810A	....	1 1/4	....	1 1/8	1 11/16	15 1/4	1 1/8	2 5/8	3.00	3.90	H 810A
H 811	1 1/8	....	1 1/4	....	1 13/16	17	1 1/4	2 15/16	4.00	5.15	H 811
H 811A	....	....	....	1 1/4	1 7/8	17	1 1/4	2 15/16	4.00	5.15	H 811A
H 812	1 1/4	....	1 3/8	....	2	19	1 3/8	3 1/4	5.25	6.65	H 812
H 813	1 3/8	....	1 1/2	....	2 3/16	21	1 1/2	3 1/2	6.70	8.40	H 813
H 813A	....	....	....	1 1/2	2 1/4	21	1 1/2	3 1/2	6.70	8.40	H 813A
H 814	1 1/2	....	....	....	2 3/8	23	1 5/8	3 3/4	8.50	10.50	H 814
H 815	1 5/8	....	....	....	2 9/16	25	1 3/4	4 1/8	10.50	13.00	H 815
H 815A	....	....	....	1 3/4	2 5/8	25	1 3/4	4 1/8	10.50	13.00	H 815A
H 816	1 3/4	....	....	....	2 3/4	27	1 7/8	4 9/16	14.00	17.50	H 816
H 817A	....	....	....	2	3	30	2	4 13/16	19.00	24.00	H 817A
H 817	2	....	....	....	3 1/8	30	2	4 13/16	19.00	24.00	H 817

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

★ “SUPERIOR” SET SCREW WRENCHES
 (Carbon Steel)

22 1/2° Angle, Single Head

For Set Screws, Square Cap Screws and Nuts



Unfinished are milled, size stamped on head, hardened and shot-blasted.

Finished are milled, surface and edges smooth, size stamped on head, hardened and black enameled (baked on)—heads bright.

*Furnished from stock until supply is exhausted; thereafter on special order only.

No.	For Set Screw; Size	For Square Head Cap Screw	For Amer. Std. Square Nut	Nominal Opening	Extreme Length, Approx.	Thickness Head	PRICE		No.
							Unfin-ished	Fin-ished	
500	3/16	.....	.....	3/16	3	3/16	\$.24	\$.28	500
501	1/4	.....	.....	1/4	3 1/2	1/4	.29	.34	501
502	5/16	.....	.....	5/16	4 1/4	5/16	.35	.42	502
503	3/8	1/4	.....	3/8	5	11/32	.42	.50	503
504	7/16	5/16	1/4	7/16	5 3/4	3/8	.52	.62	504
505	1/2	3/8	.....	1/2	6 5/8	7/16	.63	.76	505
506	9/16	7/16	5/16	9/16	7 1/2	1/2	.76	.92	506
507	5/8	1/2	3/8	5/8	8 1/2	9/16	.91	1.10	507
508	3/4	5/8	7/16	3/4	9 1/2	5/8	1.14	1.36	508
509	7/8	3/4	9/16	7/8	10 1/2	11/16	1.43	1.68	509
510	1	.....	5/8	1	11 1/2	3/4	1.92	2.20	510
*511	1 1/8	7/8	3/4	1 1/8	12 1/2	13/16	2.50	2.80	*511

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

◆

“SUPERIOR” SET SCREW WRENCHES

(Carbon Steel)

22 1/2° Angle, Double Head

For Set Screws, Square Cap Screws and Nuts



Unfinished are milled, size stamped on head, hardened and shot-blasted.

Finished are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

*Furnished from stock until supply is exhausted; thereafter on special order only.

No.	For Set Screws; Size	For Square Head Cap Screws	For Amer. Std. Square Nuts	Nominal Openings	Ex-treme Length, Approx.	Thick-ness Head	PRICE		No.
							Unfin-ished	Fin-ished	
523	3/16 & 1/4	.....	.....	3/16 & 1/4	3 1/2	7/32	\$.34	\$.40	523
*524	3/16 & 5/16	.....	.....	3/16 & 5/16	4 1/4	9/32	.40	.48	*524
525	1/4 & 5/16	.....	.....	1/4 & 5/16	4 1/4	9/32	.40	.48	525
526	1/4 & 3/8	1/4	.....	1/4 & 3/8	5	11/32	.48	.58	526
527	5/16 & 3/8	1/4	.....	5/16 & 3/8	5	11/32	.48	.58	527
528	5/16 & 7/16	5/16	1/4	5/16 & 7/16	5 3/4	3/8	.58	.70	528
529	3/8 & 7/16	1/4 & 5/16	1/4	3/8 & 7/16	5 3/4	3/8	.58	.70	529
530	3/8 & 1/2	1/4 & 3/8	.....	3/8 & 1/2	6 5/8	7/16	.74	.90	530
531	7/16 & 1/2	5/16 & 3/8	1/4	7/16 & 1/2	6 5/8	7/16	.74	.90	531
*532	7/16 & 9/16	5/16 & 7/16	1/4 & 5/16	7/16 & 9/16	7 1/2	1/2	.88	1.08	*532
533	1/2 & 9/16	3/8 & 7/16	5/16	1/2 & 9/16	7 1/2	1/2	.88	1.08	533
534	1/2 & 5/8	3/8 & 1/2	3/8	1/2 & 5/8	8 1/2	9/16	1.07	1.30	534
535	9/16 & 5/8	7/16 & 1/2	5/16 & 3/8	9/16 & 5/8	8 1/2	9/16	1.07	1.30	535
*536	9/16 & 3/4	7/16 & 5/8	5/16 & 7/16	9/16 & 3/4	9 3/4	5/8	1.33	1.60	*536
537	5/8 & 3/4	1/2 & 5/8	3/8 & 7/16	5/8 & 3/4	9 3/4	5/8	1.33	1.60	537
*538	5/8 & 7/8	1/2 & 3/4	3/8 & 9/16	5/8 & 7/8	11	11/16	1.70	2.00	*538
539	3/4 & 7/8	5/8 & 3/4	7/16 & 9/16	3/4 & 7/8	11	11/16	1.70	2.00	539
540	3/4 & 1	5/8	7/16 & 5/8	3/4 & 1	12 1/2	3/4	2.25	2.60	540
541	7/8 & 1	3/4	9/16 & 5/8	7/8 & 1	12 1/2	3/4	2.25	2.60	541
*542	7/8 & 1 1/8	3/4 & 7/8	9/16 & 3/4	7/8 & 1 1/8	14	13/16	3.10	3.50	*542
*543	1 & 1 1/8	7/8	5/8 & 3/4	1 & 1 1/8	14	13/16	3.10	3.50	*543

Weights given pages 163 to 170.

◆ REGISTERED TRADE MARK

♦ "SUPERIOR" S WRENCHES WITH FLAT HANDLE
 (Carbon Steel)

22 1/2° Angle, Double Head

For Standard Nuts and Cap Screws



Unfinished are milled, sizes stamped on heads, hardened and shot-blasted.

Finished are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

For Whitworth Standard, see page 161.

*Furnished from stock until supply is exhausted; thereafter only on special order.

No.	For U. S. Std. Nuts; Size Bolts	For Hex. Head Cap Screws; Diam. Screws	For S.A.E. Std. Nuts and Cap Screws; Size Bolts	For Amer. Std. Nuts; Regular and Jam	Nominal Openings	Ex- treme Length, Approx.	PRICE		No.
							Unfin- ished	Fin- ished	
661D	1/8	1/8 & 3/16	.....	.....	5/16 & 3/8	4	\$.37	\$.44	661D
661A	1/8 & 3/16	1/8	.....	.....	5/16 & 13/32	4	.37	.44	661A
661E	1/8	1/8 & 1/4	1/4	1/4	5/16 & 7/16	4	.37	.44	661E
661B	1/8 & 1/4	1/8 & 5/16	5/16	.....	5/16 & 1/2	4	.37	.44	661B
661F	.....	3/16 & 1/4	1/4	1/4	3/8 & 7/16	4	.37	.44	661F
661G	.....	3/16 & 5/16	5/16	.....	3/8 & 1/2	4	.37	.44	661G
661C	3/16 & 1/4	5/16	5/16	.....	13/32 & 1/2	4	.37	.44	661C
*662A	3/16 & 5/16	.....	.....	.....	13/32 & 19/32	5	.49	.58	*662A
662D	1/4	1/4 & 5/16	1/4 & 5/16	1/4	7/16 & 1/2	5	.49	.58	662D
662E	.....	1/4 & 3/8	1/4 & 3/8	1/4 & 5/16	7/16 & 9/16	5	.49	.58	662E
662P	.....	1/4 & 7/16	1/4 & 7/16	1/4 & 3/8	7/16 & 5/8	5	.49	.58	662P
662F	1/4	5/16 & 3/8	5/16 & 3/8	5/16	1/2 & 9/16	5	.49	.58	662F
662B	1/4 & 5/16	5/16	5/16	.....	1/2 & 19/32	5	.49	.58	662B
662G	1/4	5/16 & 7/16	5/16 & 7/16	3/8	1/2 & 5/8	5	.49	.58	662G
662C	1/4 & 3/8	5/16	5/16	.....	1/2 & 11/16	5	.49	.58	662C

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

✦ “SUPERIOR” S WRENCHES WITH FLAT HANDLE
 (Carbon Steel)

22 1/2° Angle, Double Head

For Standard Nuts and Cap Screws

(Continued)

Unfinished are milled, sizes stamped on heads, hardened and shot-blasted.

Finished are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

For Whitworth Standard, see page 161.

*Furnished from stock until supply is exhausted; thereafter only on special order.

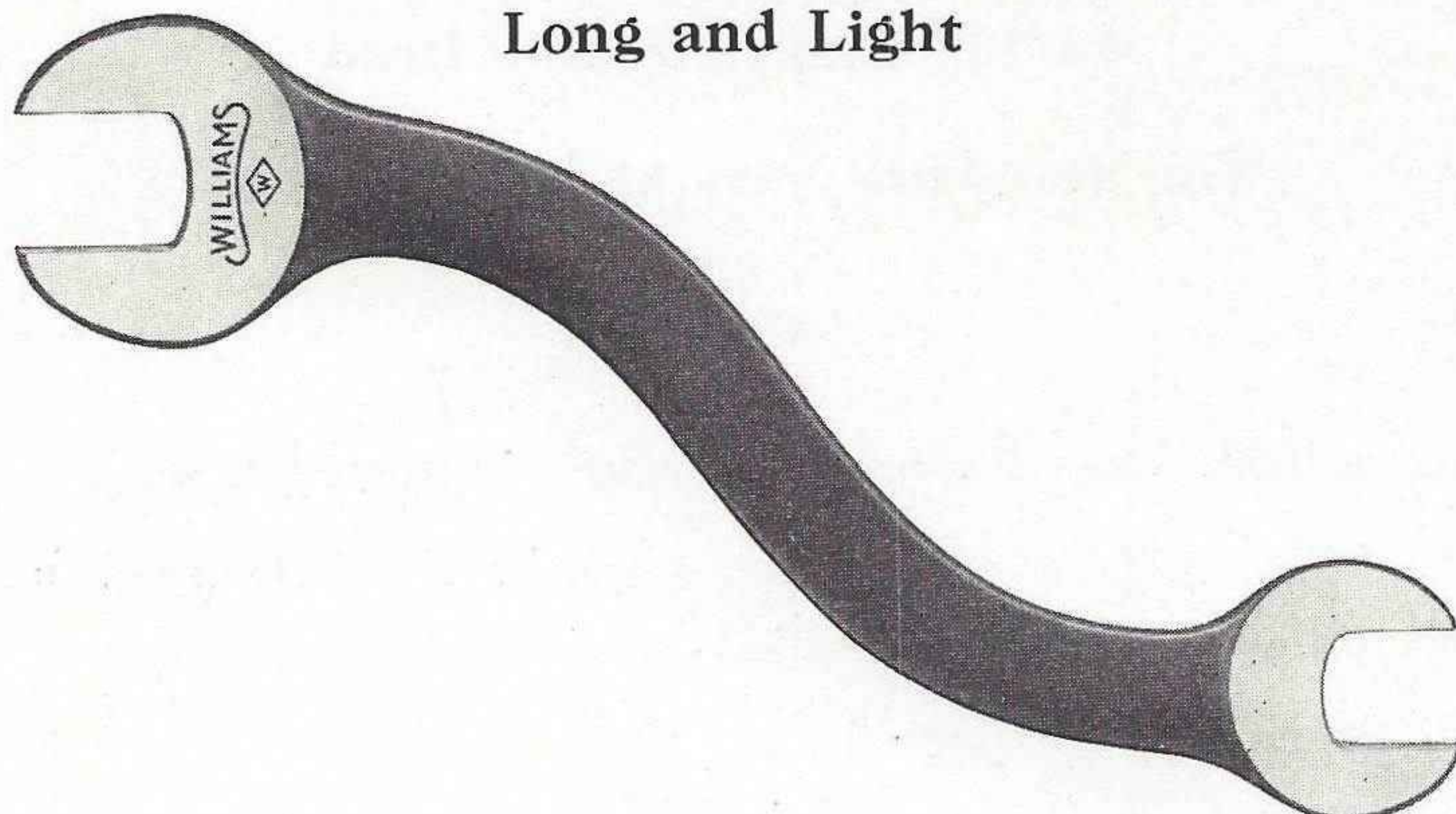
No.	For U. S. Std. Nuts; Size Bolts	For Hex. Head Cap Screws; Diam. Screws	For S.A.E. Std. Nuts; Size Bolts	For Amer. Std. Nuts; Regular and Jam	Nominal Openings	Ex- treme Length, Approx.	PRICE		No.
							Unfin- ished	Fin- ished	
663D	.....	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	9/16 & 5/8	6 1/4	\$.68	\$.78	663D
663E	.....	3/8 & 1/2	3/8 & 1/2	5/16 & 7/16	9/16 & 3/4	6 1/4	.68	.78	663E
663A	5/16 & 3/8	.....	.....	.....	19/32 & 11/16	6 1/4	.68	.78	663A
*663B	5/16 & 7/16	.....	.....	.....	19/32 & 25/32	6 1/4	.68	.78	*663B
663F	.....	7/16 & 1/2	7/16 & 1/2	3/8 & 7/16	5/8 & 3/4	6 1/4	.68	.78	663F
663G	.....	7/16 & 9/16	7/16	3/8 & 1/2	5/8 & 13/16	6 1/4	.68	.78	663G
663C	3/8 & 7/16	.....	.....	.....	11/16 & 25/32	6 1/4	.68	.78	663C
664A	3/8 & 1/2	..... 5/8	..... 9/16	..... 9/16	11/16 & 7/8	7 1/2	.92	1.06	664A
*664D	.....	1/2 & 9/16	1/2	7/16 & 1/2	3/4 & 13/16	7 1/2	.92	1.06	*664D
664E	..... 1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16	3/4 & 7/8	7 1/2	.92	1.06	664E
664B	7/16 & 1/2	..... 5/8	..... 9/16	..... 9/16	25/32 & 7/8	7 1/2	.92	1.06	664B
*664C	7/16 & 9/16	.....	.....	.....	25/32 & 31/32	7 1/2	.92	1.06	*664C
*664F	..... 1/2	9/16 & 5/8	..... 9/16	1/2 & 9/16	13/16 & 7/8	7 1/2	.92	1.06	*664F
*665D	.....	9/16 & 3/4	.....	1/2 & 5/8	13/16 & 1	9	1.25	1.44	*665D
665A	1/2 & 9/16	5/8	9/16	9/16	7/8 & 31/32	9	1.25	1.44	665A
665E	1/2	5/8 & 3/4	9/16	9/16 & 5/8	7/8 & 1	9	1.25	1.44	665E
665B	1/2 & 5/8	5/8	9/16 & 3/4	9/16	7/8 & 1 1/16	9	1.25	1.44	665B
665F	1/2	5/8 & 7/8	9/16	9/16 & 3/4	7/8 & 1 1/8	9	1.25	1.44	665F
665C	9/16 & 5/8	.....	..... 3/4	.....	31/32 & 1 1/16	9	1.25	1.44	665C
665G	.....	3/4 & 7/8	.....	5/8 & 3/4	1 & 1 1/8	9	1.25	1.44	665G
666A	9/16 & 3/4	.....	..... 7/8	.....	31/32 & 1 1/4	10 1/2	1.75	2.00	666A
666N	.....	3/4 & 1	.....	5/8 & 7/8	1 & 1 5/16	10 1/2	1.75	2.00	666N
666B	5/8 & 3/4	.....	3/4 & 7/8	.....	1 1/16 & 1 1/4	10 1/2	1.75	2.00	666B
666E	..... 3/4	7/8	..... 7/8	3/4	1 1/8 & 1 1/4	10 1/2	1.75	2.00	666E
666S	.....	7/8 & 1	.....	3/4 & 7/8	1 1/8 & 1 5/16	10 1/2	1.75	2.00	666S
667L	.....	7/8 & 1 1/8	.....	3/4 & 1	1 1/8 & 1 1/2	12	2.60	2.90	667L
667A	3/4 & 7/8	.....	7/8 & 1	.....	1 1/4 & 1 7/16	12	2.60	2.90	667A
667B	3/4 & 1	.....	7/8 & 1 1/8	.....	1 1/4 & 1 5/8	12	2.60	2.90	667B
667N	.....	1 & 1 1/8	.....	7/8 & 1	1 5/16 & 1 1/2	12	2.60	2.90	667N
667C	7/8 & 1	.....	1 & 1 1/8	.....	1 7/16 & 1 5/8	12	2.60	2.90	667C
*668C	1 & 1 1/4	.....	1 1/8 & 1 3/8	.....	1 5/8 & 2	14	4.50	5.00	*668C

Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

✦ "SUPERIOR" LIGHT SERVICE WRENCHES
 (Carbon Steel)

22 1/2° Angle, Double Head
 Long and Light



Unfinished are milled, sizes stamped on heads, hardened and shot-blasted.

Finished are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

For Whitworth Standard and Metric Measure, see page 161.

*Furnished from stock until supply is exhausted; thereafter only on special order.

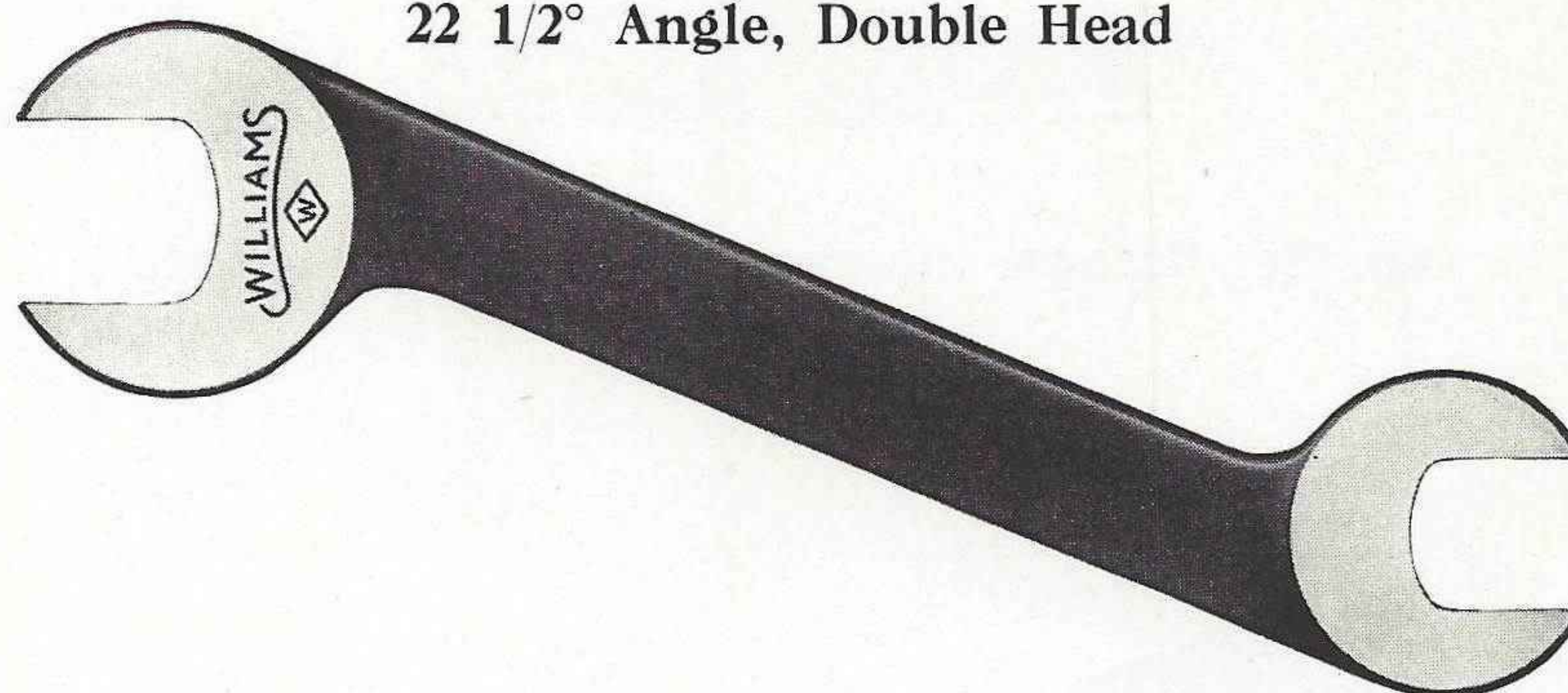
No.	For U. S. Std. Nuts; Size Bolts	For Hex. Head Cap Screws; Diam. Screws	For S.A.E. Std. Nuts; Size Bolts	For Amer. Std. Nuts; Regular and Jam	Nominal Openings	Ex- treme Length, Approx.	PRICE		No.
							Unfin- ished	Fin- ished	
75C	1/8	1/8			1/4 & 5/16	6 1/4	\$.45	\$.54	75C
75B		3/16 & 1/4	1/4	1/4	3/8 & 7/16	6 1/4	.45	.54	75B
75A	1/4	3/16 & 5/16	5/16		3/8 & 1/2	6 1/4	.45	.54	75A
75	3/16 & 1/4	5/16	5/16		13/32 & 1/2	6 1/4	.45	.54	75
77S	1/4	1/4 & 5/16	1/4 & 5/16	1/4	7/16 & 1/2	7 1/4	.58	.68	77S
*77C		1/4 & 3/8	1/4 & 3/8	1/4 & 5/16	7/16 & 9/16	7 1/4	.58	.68	*77C
77E		1/4 & 7/16	1/4 & 7/16	1/4 & 3/8	7/16 & 5/8	7 1/4	.58	.68	77E
77B	1/4	5/16 & 3/8	5/16 & 3/8	5/16	1/2 & 9/16	7 1/4	.58	.68	77B
77	1/4	5/16 & 7/16	5/16 & 7/16	3/8	1/2 & 5/8	7 1/4	.58	.68	77
79B	5/16	3/8	3/8	5/16	9/16 & 19/32	8 1/4	.73	.86	79B
79S		3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	9/16 & 5/8	8 1/4	.73	.86	79S
79A	3/8	3/8	3/8	5/16	9/16 & 11/16	8 1/4	.73	.86	79A
79E		3/8 & 1/2	3/8 & 1/2	5/16 & 7/16	9/16 & 3/4	8 1/4	.73	.86	79E
79D	5/16 & 3/8				19/32 & 11/16	8 1/4	.73	.86	79D
79	3/8	7/16	7/16	3/8	5/8 & 11/16	8 1/4	.73	.86	79
79C		7/16 & 1/2	7/16 & 1/2	3/8 & 7/16	5/8 & 3/4	8 1/4	.73	.86	79C
*81H		7/16 & 9/16	7/16	3/8 & 1/2	5/8 & 13/16	9 1/4	.93	1.10	*81H
81	3/8				11/16 & 27/32	9 1/4	.93	1.10	81
81B		1/2 & 9/16	1/2	7/16 & 1/2	3/4 & 13/16	9 1/4	.93	1.10	81B
81A	1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16	3/4 & 7/8	9 1/4	.93	1.10	81A
*83J		9/16 & 3/4		1/2 & 5/8	13/16 & 1	10 3/8	1.16	1.40	*83J
83			5/8		27/32 & 15/16	10 3/8	1.16	1.40	83
83D	1/2	5/8	9/16 & 5/8		7/8 & 15/16	10 3/8	1.16	1.40	83D
83B	1/2	5/8 & 3/4	9/16	9/16 & 5/8	7/8 & 1	10 3/8	1.16	1.40	83B
83C	1/2 & 5/8	5/8	9/16 & 3/4	9/16	7/8 & 1 1/16	10 3/8	1.16	1.40	83C
83A		3/4	5/8	5/8	15/16 & 1	10 3/8	1.16	1.40	83A
85		3/4 & 7/8		5/8 & 3/4	1 & 1 1/8	12	1.65	2.00	85
85J		3/4 & 1		5/8 & 7/8	1 & 1 5/16	12	1.65	2.00	85J
*85C	5/8 & 3/4		3/4 & 7/8		1 1/16 & 1 1/4	12	1.65	2.00	*85C
*85B	3/4	7/8	7/8	3/4	1 1/8 & 1 1/4	12	1.65	2.00	*85B
*85K		7/8 & 1		3/4 & 7/8	1 1/8 & 1 5/16	12	1.65	2.00	*85K

Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

★ "SUPERIOR" TEXTILE MACHINE WRENCHES
 (Carbon Steel)

22 1/2° Angle, Double Head



Unfinished are milled, sizes stamped on heads, hardened and shot-blasted.

Finished are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

For Whitworth Standard, see page 161.

*Furnished from stock until supply is exhausted; thereafter only on special order.

No.	For U. S. Std. Nuts; Size Bolts	For Hex. Head Cap Screws; Diam. Screws	For S. A. E. Std. Nuts; Size Bolts	For Amer. Std. Nuts; Regular and Jam	Nominal Openings	Ex- treme Length, Approx.	PRICE		No.
							Unfin- ished	Fin- ished	
760A	1/8 & 1/4	1/8 & 5/16	5/16	.....	5/16 & 1/2	4 3/4	\$.42	\$.50	760A
760B	3/16 & 1/4	5/16	5/16	.....	13/32 & 1/2	4 3/4	.42	.50	760B
*760C	3/16 & 5/16	.....	.....	.....	13/32 & 19/32	4 3/4	.42	.50	*760C
760Y	1/4	1/4 & 5/16	1/4 & 5/16	1/4	7/16 & 1/2	4 3/4	.42	.50	760Y
*760F	.....	1/4 & 3/8	1/4 & 3/8	1/4 & 5/16	7/16 & 9/16	4 3/4	.42	.50	*760F
760G	.....	1/4 & 7/16	1/4 & 7/16	1/4 & 3/8	7/16 & 5/8	4 3/4	.42	.50	760G
761X	1/4	5/16 & 3/8	5/16 & 3/8	5/16	1/2 & 9/16	5 3/4	.52	.62	761X
761A	1/4 & 5/16	5/16	5/16	.....	1/2 & 19/32	5 3/4	.52	.62	761A
761	1/4	5/16 & 7/16	5/16 & 7/16	3/8	1/2 & 5/8	5 3/4	.52	.62	761
761B	1/4 & 3/8	5/16	5/16	.....	1/2 & 11/16	5 3/4	.52	.62	761B
761Z	.....	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	9/16 & 5/8	5 3/4	.52	.62	761Z
761C	5/16 & 3/8	.....	.....	.....	19/32 & 11/16	5 3/4	.52	.62	761C
*762D	.....	3/8 & 1/2	3/8 & 1/2	5/16 & 7/16	9/16 & 3/4	7	.68	.80	*762D
*762A	5/16 & 7/16	.....	.....	.....	19/32 & 25/32	7	.68	.80	*762A
762Y	.....	7/16 & 1/2	7/16 & 1/2	3/8 & 7/16	5/8 & 3/4	7	.68	.80	762Y
762E	.....	7/16 & 9/16	7/16	3/8 & 1/2	5/8 & 13/16	7	.68	.80	762E
762B	3/8 & 7/16	.....	.....	.....	11/16 & 25/32	7	.68	.80	762B
762C	3/8 & 1/2	5/8	9/16	9/16	11/16 & 7/8	7	.68	.80	762C
*763E	.....	1/2	1/2	7/16 & 1/2	3/4 & 13/16	8 1/4	.90	1.06	*763E
763Y	1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16	3/4 & 7/8	8 1/4	.90	1.06	763Y
763A	7/16 & 1/2	5/8	9/16	9/16	25/32 & 7/8	8 1/4	.90	1.06	763A
*763B	7/16 & 9/16	.....	.....	.....	25/32 & 31/32	8 1/4	.90	1.06	*763B
763F	1/2	9/16 & 5/8	9/16	1/2 & 9/16	13/16 & 7/8	8 1/4	.90	1.06	763F
*763D	1/2	5/8	9/16 & 5/8	9/16	7/8 & 15/16	8 1/4	.90	1.06	*763D
*763C	1/2 & 9/16	5/8	9/16	9/16	7/8 & 31/32	8 1/4	.90	1.06	*763C
*764H	.....	9/16 & 3/4	.....	1/2 & 5/8	13/16 & 1	9 1/2	1.20	1.44	*764H
764	1/2	5/8 & 3/4	9/16	9/16 & 5/8	7/8 & 1	9 1/2	1.20	1.44	764
764A	1/2 & 5/8	5/8	9/16 & 3/4	9/16	7/8 & 1 1/16	9 1/2	1.20	1.44	764A
*764E	.....	.....	9/16	9/16 & 3/4	7/8 & 1 1/8	9 1/2	1.20	1.44	*764E
*764Z	.....	3/4	5/8	5/8	15/16 & 1	9 1/2	1.20	1.44	*764Z
*764D	5/8	.....	5/8 & 3/4	.....	15/16 & 1 1/16	9 1/2	1.20	1.44	*764D
764B	9/16 & 5/8	.....	3/4	.....	31/32 & 1 1/16	9 1/2	1.20	1.44	764B
*764C	9/16 & 3/4	.....	7/8	.....	31/32 & 1 1/4	9 1/2	1.20	1.44	*764C
765A	5/8 & 3/4	.....	3/4 & 7/8	.....	1 1/16 & 1 1/4	11	1.60	1.92	765A
765B	5/8 & 7/8	.....	3/4 & 1	.....	1 1/16 & 1 7/16	11	1.60	1.92	765B
765C	3/4 & 7/8	.....	7/8 & 1	.....	1 1/4 & 1 7/16	11	1.60	1.92	765C

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

♦ "SUPERIOR" SQUARE BOX WRENCHES
 (Carbon Steel)

22 1/2° Angle, Single Head

For Set Screws, Square Cap Screws and Nuts



Unhardened are broached and shot-blasted.

Finished are broached, surface and edges smooth, hardened and black enameled (baked on)—heads bright.

These Wrenches can also be furnished, to order, with 8-point openings.

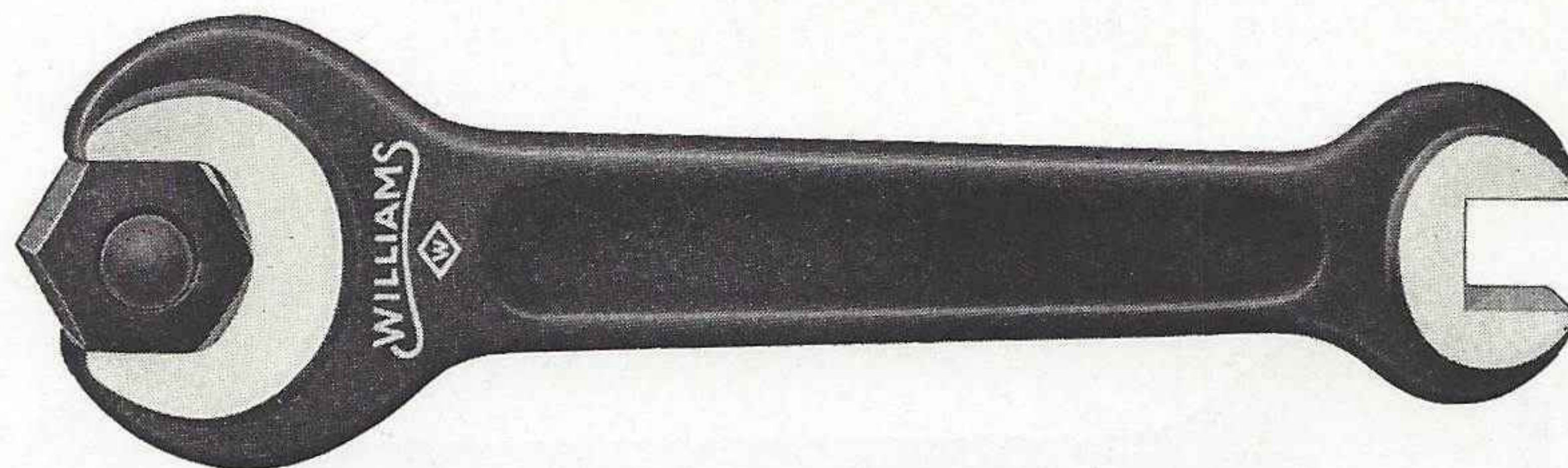
No.	For Set Screw; Size	For Square Head Cap Screw	For Amer. Std. Square Nut	Nominal Opening	Extreme Length, Approx.	Head		PRICE		No.
						Thickness	Outside Diam.	Unhard-ened	Fin-ished	
580	3/16	.....	.....	3/16	3	1/4	1/2	\$.22	\$.30	580
581	1/4	.....	.....	1/4	3 3/8	9/32	5/8	.24	.34	581
582	5/16	.....	.....	5/16	3 3/4	5/16	11/16	.28	.40	582
583	3/8	1/4	.....	3/8	4 1/4	3/8	27/32	.32	.48	583
584	7/16	5/16	1/4	7/16	4 7/8	7/16	31/32	.38	.56	584
585	1/2	3/8	.....	1/2	5 1/2	15/32	1 1/16	.46	.68	585
586	9/16	7/16	5/16	9/16	6 1/4	1/2	1 3/16	.56	.82	586
587	5/8	1/2	3/8	5/8	7	9/16	1 5/16	.70	1.00	587
588	3/4	5/8	7/16	3/4	8	5/8	1 9/16	.88	1.24	588
589	7/8	3/4	9/16	7/8	9	11/16	1 25/32	1.20	1.62	589
590	1	.....	5/8	1	10	3/4	2	1.60	2.10	590

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

♦ “SUPERIOR” MACHINE WRENCHES
 (Carbon Steel)

Extra Heavy for Planers
 Milling Machines, Lathes, Drill Presses, etc.



Unfinished are milled, sizes stamped on heads, hardened and shot-blasted.

Finished are milled, surface and edges smooth, size stamped on large head, hardened and black enameled (baked on)—heads bright.

*Furnished from stock until supply is exhausted; thereafter only on special order.

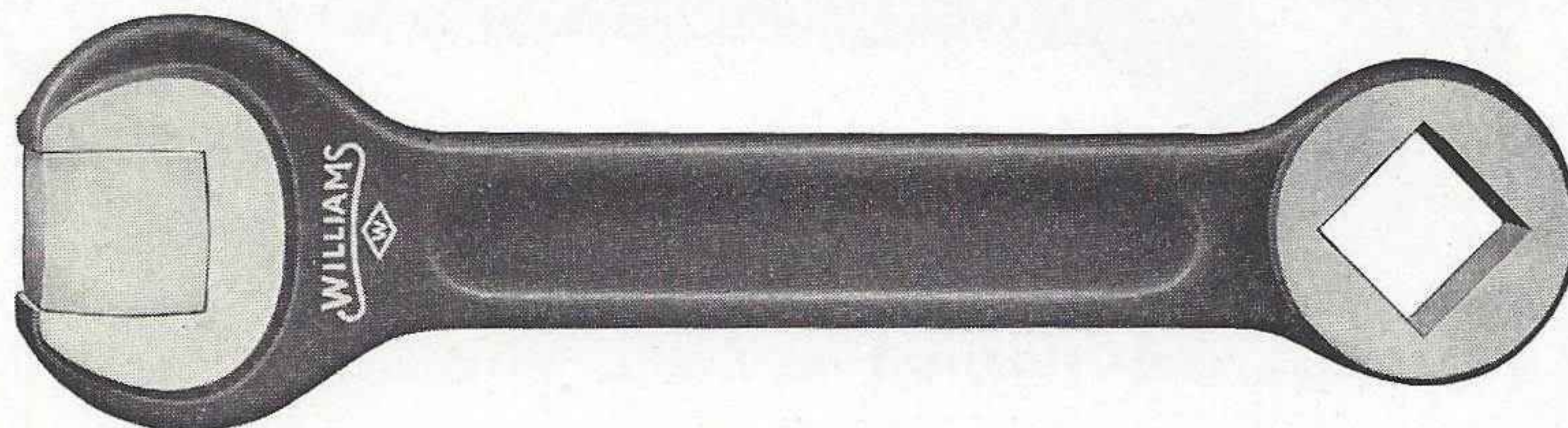
No.	Large Head for U. S. Standard Nut		Small Head				Ex- treme Length, Approx.	Thick- ness Heads	PRICE		No.
	Size Bolt	Nominal Openings	For Set Screw; Size	For Square Head Cap Screw	For Amer. Std. Square Nut	Nominal Opening			Unfin- ished	Fin- ished	
*595	3/8	11/16	3/8	1/4	.....	3/8	6 1/2	17/32	\$.98	\$1.16	*595
*595B	3/8	11/16	7/16	5/16	1/4	7/16	6 1/2	17/32	.98	1.16	*595B
*595C	3/8	11/16	1/2	3/8	.....	1/2	6 1/2	17/32	.98	1.16	*595C
*595D	7/16	25/32	3/8	1/4	.....	3/8	6 1/2	17/32	.98	1.16	*595D
*595E	7/16	25/32	7/16	5/16	1/4	7/16	6 1/2	17/32	.98	1.16	*595E
*595F	7/16	25/32	1/2	3/8	.....	1/2	6 1/2	17/32	.98	1.16	*595F
*596	1/2	7/8	7/16	5/16	1/4	7/16	7 1/2	19/32	1.22	1.44	*596
*596B	1/2	7/8	1/2	3/8	.....	1/2	7 1/2	19/32	1.22	1.44	*596B
*596C	1/2	7/8	9/16	7/16	5/16	9/16	7 1/2	19/32	1.22	1.44	*596C
*596D	1/2	7/8	5/8	1/2	3/8	5/8	7 1/2	19/32	1.22	1.44	*596D
*596E	9/16	31/32	7/16	5/16	1/4	7/16	7 1/2	19/32	1.22	1.44	*596E
*596F	9/16	31/32	1/2	3/8	.....	1/2	7 1/2	19/32	1.22	1.44	*596F
*596G	9/16	31/32	9/16	7/16	5/16	9/16	7 1/2	19/32	1.22	1.44	*596G
*596H	9/16	31/32	5/8	1/2	3/8	5/8	7 1/2	19/32	1.22	1.44	*596H
*597	5/8	1 1/16	9/16	7/16	5/16	9/16	8 1/2	11/16	1.68	1.92	*597
*597B	5/8	1 1/16	5/8	1/2	3/8	5/8	8 1/2	11/16	1.68	1.92	*597B
*597C	5/8	1 1/16	3/4	5/8	7/16	3/4	8 1/2	11/16	1.68	1.92	*597C
*598	3/4	1 1/4	3/4	5/8	7/16	3/4	10	13/16	2.40	2.70	*598
*598B	3/4	1 1/4	7/8	3/4	9/16	7/8	10	13/16	2.40	2.70	*598B
*598C	3/4	1 1/4	1	.....	5/8	1	10	13/16	2.40	2.70	*598C
*598D	7/8	1 7/16	3/4	5/8	7/16	3/4	10	13/16	2.40	2.70	*598D
*598E	7/8	1 7/16	7/8	3/4	9/16	7/8	10	13/16	2.40	2.70	*598E
*598F	7/8	1 7/16	1	.....	5/8	1	10	13/16	2.40	2.70	*598F

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

★ “SUPERIOR” TOOL POST WRENCHES
 (Carbon Steel)

For Set Screws



Unfinished are milled and broached, sizes stamped on heads, hardened and shot-blasted.

Finished are milled and broached, surface and edges smooth, hardened and black enameled (baked on)—heads bright.

No.	Open End for Set Screw; Size	Closed End for Set Screw; Size	Extreme Length, Approx.	Thickness Heads	PRICE		No.
					Unfinished	Finished	
554	7/16	7/16	5 1/2	1/2	\$.95	\$ 1.12	554
555	1/2	1/2	6	9/16	1.05	1.24	555
555B	9/16	1/2	6	9/16	1.05	1.24	555B
555C	9/16	9/16	6	9/16	1.05	1.24	555C
556	5/8	5/8	7	5/8	1.22	1.44	556
556B	11/16	5/8	7	5/8	1.22	1.44	556B
556C	11/16	11/16	7	5/8	1.22	1.44	556C
557	3/4	3/4	7 5/8	11/16	1.40	1.64	557

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

★ “SUPERIOR” TOOL POST WRENCHES
(Carbon Steel)

For Nuts and Set Screws



Unfinished are milled and broached, sizes stamped, hardened and shot-blasted.

Finished are milled and broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright.

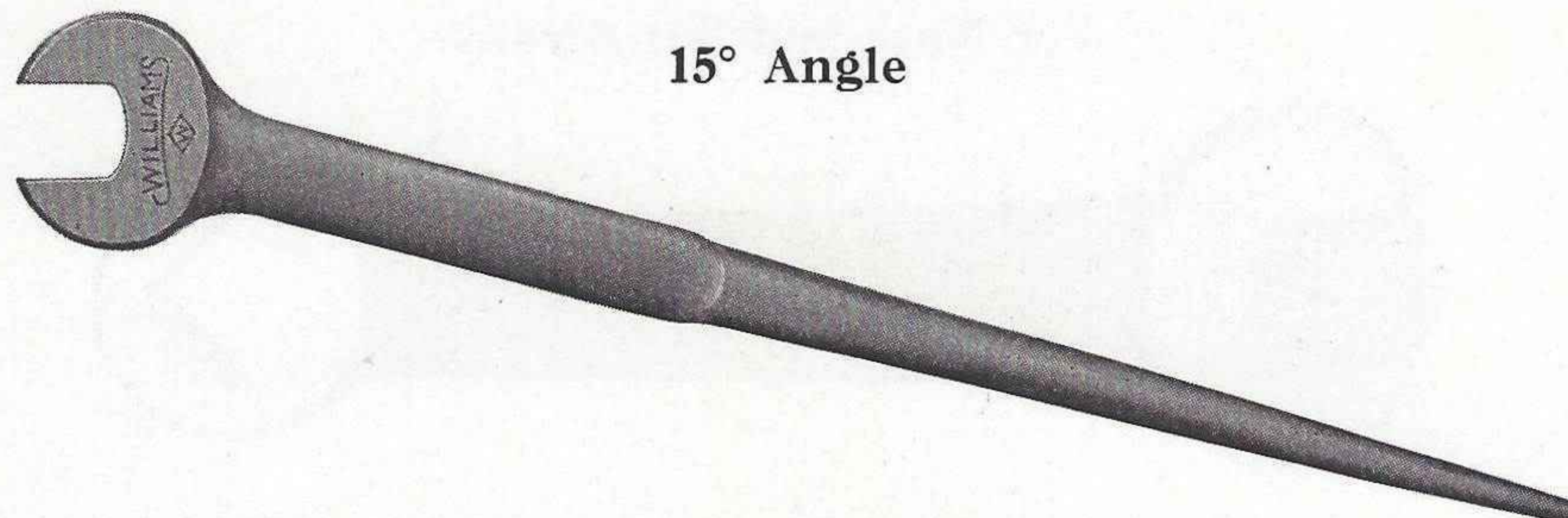
For Whitworth Standard, see page 160.

No.	For U. S. Std. Nut; Size Bolt	For Amer. Std. Nut (Regl.); Size Bolt	Nominal Opening	Closed End for Set Screw; Size	Extreme Length, Approx.	Thickness Heads	PRICE		No.
							Unfin- ished	Finished	
562B	.....	3/8	5/8	9/16	6 1/2	1/2	\$ 1.15	\$ 1.32	562B
562	3/8	.....	11/16	9/16	6 1/2	1/2	1.15	1.32	562
563E	.....	1/2	13/16	7/16	7	9/16	1.22	1.44	563E
563F	.....	1/2	13/16	1/2	7	9/16	1.22	1.44	563F
563G	.....	1/2	13/16	9/16	7	9/16	1.22	1.44	563G
563H	.....	1/2	13/16	5/8	7	9/16	1.22	1.44	563H
563	1/2	9/16	7/8	7/16	7	9/16	1.22	1.44	563
563B	1/2	9/16	7/8	1/2	7	9/16	1.22	1.44	563B
563C	1/2	9/16	7/8	9/16	7	9/16	1.22	1.44	563C
563D	1/2	9/16	7/8	5/8	7	9/16	1.22	1.44	563D
564C	.....	5/8	1	5/8	7 1/2	5/8	1.40	1.64	564C
564	5/8	.....	1 1/16	5/8	7 1/2	5/8	1.40	1.64	564
565C	.....	5/8	1	3/4	8	5/8	1.70	1.94	565C
565	5/8	.....	1 1/16	3/4	8	5/8	1.70	1.94	565
566C	.....	3/4	1 1/8	3/4	9 1/4	3/4	2.10	2.40	566C
566D	.....	3/4	1 1/8	7/8	9 1/4	3/4	2.10	2.40	566D
566	3/4	.....	1 1/4	3/4	9 1/4	3/4	2.10	2.40	566
566B	3/4	.....	1 1/4	7/8	9 1/4	3/4	2.10	2.40	566B
567D	.....	3/4	1 1/8	1	10	7/8	2.90	3.20	567D
567	3/4	.....	1 1/4	1	10	7/8	2.90	3.20	567
567E	.....	7/8	1 5/16	7/8	10	7/8	2.90	3.20	567E
567F	.....	7/8	1 5/16	1	10	7/8	2.90	3.20	567F
567B	7/8	.....	1 7/16	7/8	10	7/8	2.90	3.20	567B
567C	7/8	.....	1 7/16	1	10	7/8	2.90	3.20	567C
568E	.....	1	1 1/2	7/8	11	15/16	4.00	4.40	568E
568F	.....	1	1 1/2	1	11	15/16	4.00	4.40	568F
568	1	.....	1 5/8	7/8	11	15/16	4.00	4.40	568
568B	1	.....	1 5/8	1	11	15/16	4.00	4.40	568B
568G	.....	1 1/8	1 11/16	1	11	15/16	4.00	4.40	568G
568H	.....	1 1/4	1 7/8	1	11	15/16	4.00	4.40	568H
568C	1 1/8	.....	1 13/16	1	11	15/16	4.00	4.40	568C
568D	1 1/4	.....	2	1	11	15/16	4.00	4.40	568D

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

★ "SUPERIOR" CONSTRUCTION WRENCHES
 (Carbon Steel)



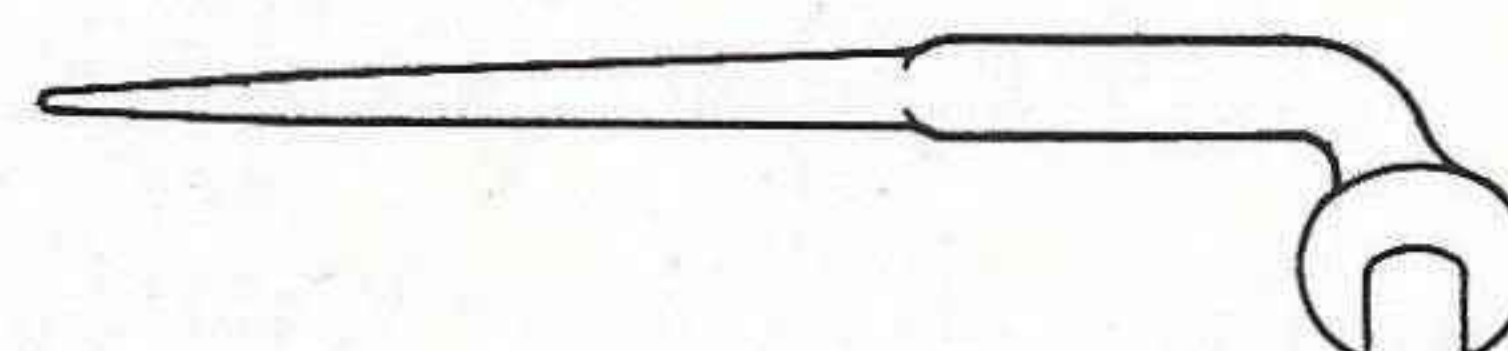
15° Angle

These Wrenches with deep opening provide substantial bearing on square nuts. The long handle is round for the greater part of its length, with tapered end for easy insertion into bolt holes when bringing them into line.

Hardened are milled, hardened all over, shot-blasted; heads not bright.

For Whitworth Standard, see page 160.

Handle can be offset above head at angles of 45° to 90° from opening, at an additional charge; see illustration at right.



No.	For U.S. Std. Nut; Size Bolt	For American Standard Regular Nut; Size Bolt	Nominal Opening	Extreme Length, Approx.	Thickness Head	PRICE Hardened	No.
201A	.....	1/4	7/16	8	3/8	\$.75	201A
201	1/4	.....	1/2	8	3/8	.75	201
201B	.....	5/16	9/16	8	3/8	.75	201B
202	5/16	.....	19/32	8	3/8	.75	202
203A	.....	3/8	5/8	12	7/16	.95	203A
203	3/8	.....	11/16	12	7/16	.95	203
204A	.....	7/16	3/4	12	7/16	.95	204A
204	7/16	.....	25/32	12	7/16	.95	204
205A	.....	1/2	13/16	14 1/2	17/32	1.20	205A
205	1/2	9/16	7/8	14 1/2	17/32	1.20	205
206	9/16	.....	31/32	14 1/2	17/32	1.20	206
206B	.....	5/8	1	14 1/2	17/32	1.20	206B
207	5/8	.....	1 1/16	17	5/8	1.55	207
207A	.....	3/4	1 1/8	17	5/8	1.55	207A
208	3/4	.....	1 1/4	19	11/16	2.05	208
208A	.....	7/8	1 5/16	19	11/16	2.05	208A
209	7/8	.....	1 7/16	21	3/4	2.70	209
209A	.....	1	1 1/2	21	3/4	2.70	209A
210	1	.....	1 5/8	23	27/32	3.60	210
210A	.....	1 1/8	1 11/16	23	27/32	3.60	210A
211	1 1/8	.....	1 13/16	25	15/16	5.30	211
211A	.....	1 1/4	1 7/8	25	15/16	5.30	211A
212	1 1/4	.....	2	25	15/16	5.30	212

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

◆

“SUPERIOR”

STRUCTURAL WRENCHES

(Carbon Steel)

Straight Opening



The jaws of these Wrenches are narrow and long, providing substantially full bearing on square nuts. The long handle is round for the greater part of its length, with tapered end for easy insertion into bolt holes when bringing them into line.

The abrupt offset and angle of handle provide for clearance of obstructions, even when these are close to the head, and safety to the operator's hands. The wrench is particularly well balanced. When thrust into slit of scabbard or belt-loop the "step-up" of the round above the flat part of handle acts as a stop. It retains the wrench, yet allows its ready release.

For explanation of finish, see previous page. Whitworth Standard, see page 162.

No.	For U.S. Standard Nut; Size Bolt	American Standard Regular Nut; Size Bolt	Nominal Opening	Extreme Length, Approx.	Thick-ness Head	Handle Offset		PRICE Hardened	No.
						At Head	At End		
901A	.....	1/4	7/16	9 1/2	11/32	9/16	1 1/2	\$.80	901A
901	1/4	.....	*1/2	9 1/2	11/32	9/16	1 1/2	.80	901
901B	.....	5/16	9/16	9 1/2	11/32	9/16	1 1/2	.80	901B
902	5/16	.....	*19/32	9 1/2	11/32	9/16	1 1/2	.80	902
903A	.....	3/8	5/8	12	7/16	3/4	1 11/16	1.05	903A
903	3/8	.....	*11/16	12	7/16	3/4	1 11/16	1.05	903
904A	.....	7/16	3/4	12	7/16	3/4	1 11/16	1.05	904A
904	7/16	.....	*25/32	12	7/16	3/4	1 11/16	1.05	904
905A	.....	1/2	13/16	14 1/2	17/32	7/8	1 7/8	1.40	905A
905B	.....	9/16	7/8	14 1/2	17/32	7/8	1 7/8	1.40	905B
905	1/2	.....	*7/8	14 1/2	17/32	7/8	1 7/8	1.40	905
906 {	9/16	.....	*31/32	14 1/2	17/32	7/8	1 7/8	1.40	906
.....	5/8	1	1						
907	5/8	.....	*1 1/16	17	5/8	1	2 3/8	1.85	907
907A	.....	3/4	1 1/8	17	5/8	1	2 3/8	1.85	907A
908	3/4	.....	*1 1/4	19	11/16	1 1/8	2 3/4	2.35	908
908A	.....	7/8	1 5/16	19	11/16	1 1/8	2 3/4	2.35	908A
909 {	7/8	.....	*1 7/16	21	3/4	1 1/4	3 1/16	3.00	909
.....	1	1	1 1/2						
910 {	1	.....	*1 5/8	23	13/16	1 7/16	3 3/8	4.10	910
.....	1 1/8	1 1/8	1 11/16						
910A {	1 1/8	.....	*1 13/16	23	13/16	1 7/16	3 3/8	4.10	910A
.....	1 1/4	1 1/4	1 7/8						
911 {	1 1/8	.....	*1 13/16	25	7/8	1 5/8	3 11/16	6.15	911
.....	1 1/4	1 1/4	1 7/8						
912	1 1/4	.....	*2	25	7/8	1 5/8	3 11/16	6.15	912

*Based on U. S. Std. Nut formula. Actual openings are 1/32 to 1/16 inch larger for proper clearance on rough nuts and bolts.

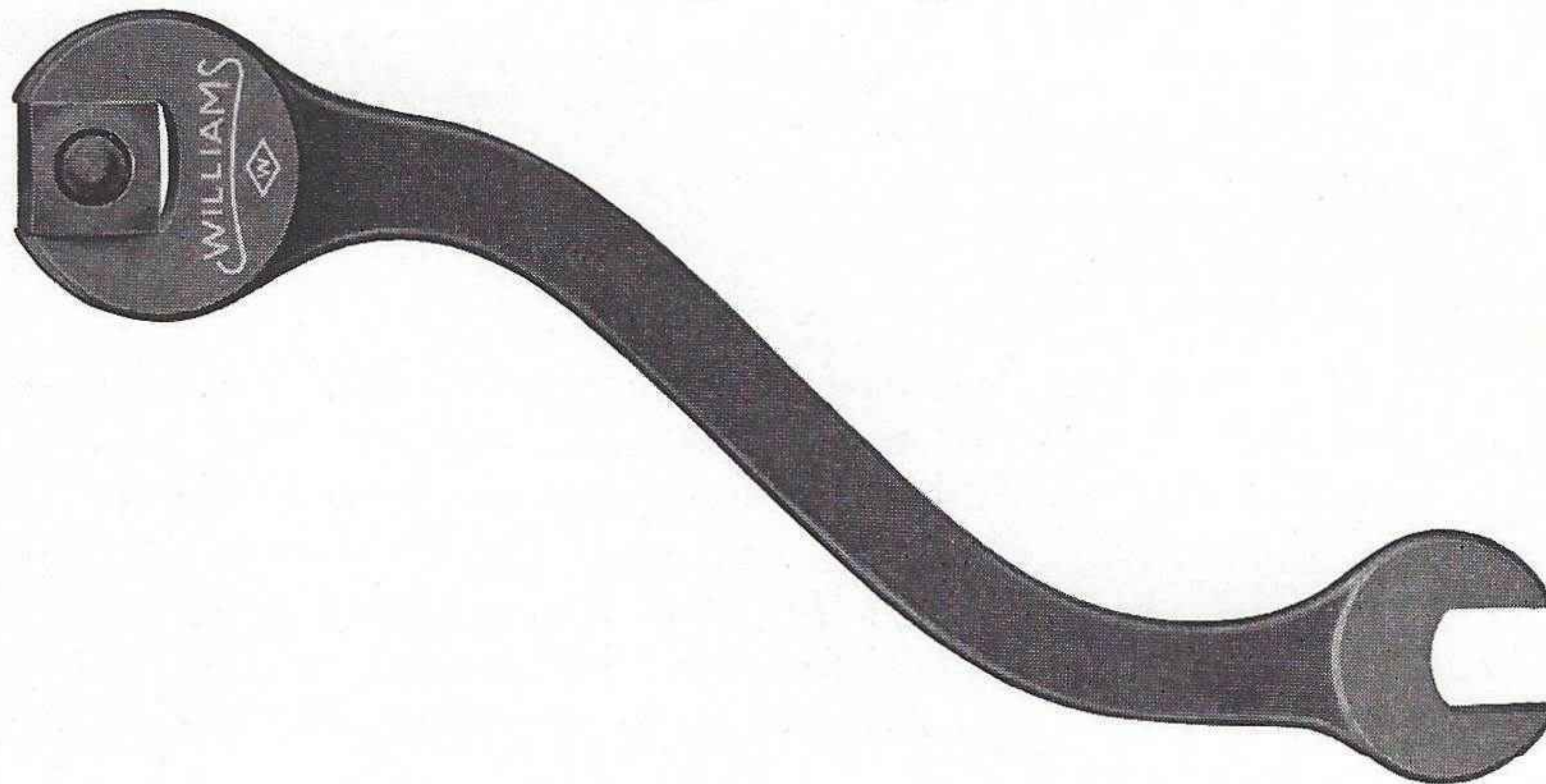
Weights given pages 163 to 170.

◆ REGISTERED TRADE MARK

♦ "SUPERIOR" CAR WRENCHES
 (Carbon Steel)

22 1/2° Angle, Double Head

Long Leverage



Unhardened are milled only.

Hardened are milled, hardened all over, shot-blasted; heads not bright.

†Furnished from stock until supply is exhausted; thereafter only on special order.

No.	For U. S. Standard Nuts; Size Bolts	For American Standard Regular Nuts; Size Bolts	Nominal Openings	Ex- treme Length, Approx.	PRICE		No.
					Unhard- ened	Hard- ened	
367A	.....	3/8 & 1/2	5/8 & 13/16	12	\$ 1.10	\$ 1.50	367A
367	3/8 & 1/2	.....	*11/16 & *7/8	12	1.10	1.50	367
370A	.....	1/2 & 5/8	13/16 & 1	19	1.90	2.50	370A
370	1/2 & 5/8	.....	*7/8 & *1 1/16	19	1.90	2.50	370
370B	.....	5/8 & 3/4	1 & 1 1/8	19	1.90	2.50	370B
371	1/2 & 3/4	.....	*7/8 & *1 1/4	20	2.30	3.10	371
373	5/8 & 3/4	.....	*1 1/16 & *1 1/4	20	2.30	3.10	373
	.....	3/4 & 7/8	1 1/8 & 1 5/16				
†374	5/8 & 7/8	.....	*1 1/16 & *1 7/16	21	2.70	3.70	†374
	.....	3/4 & 1	1 1/8 & 1 1/2				
376	3/4 & 7/8	.....	*1 1/4 & *1 7/16	21	2.70	3.70	376
	.....	7/8 & 1	1 5/16 & 1 1/2				
†377	3/4 & 1	.....	*1 1/4 & *1 5/8	22	3.30	4.50	†377
	.....	7/8 & 1 1/8	1 5/16 & 1 11/16				
379	7/8 & 1	.....	*1 7/16 & *1 5/8	22	3.30	4.50	379
	.....	1 & 1 1/8	1 1/2 & 1 11/16				
†380	7/8 & 1 1/8	.....	*1 7/16 & *1 13/16	23	3.90	5.30	†380
	.....	1 & 1 1/4	1 1/2 & 1 7/8				
382	1 & 1 1/8	.....	*1 5/8 & *1 13/16	23	3.90	5.30	382
	.....	1 1/8 & 1 1/4	1 11/16 & 1 7/8				
383	1 & 1 1/4	.....	*1 5/8 & *2	24	4.50	6.30	383
385	1 1/8 & 1 1/4	.....	*1 13/16 & *2	24	4.50	6.30	385
383B	.....	1 1/4 & 1 1/2	1 7/8 & 2 1/4	24	4.50	6.30	383B
†387	1 1/8 & 1 1/2	.....	*1 13/16 & *2 3/8	25	6.80	9.00	†387
389	1 1/4 & 1 1/2	.....	*2 & *2 3/8	25	6.80	9.00	389

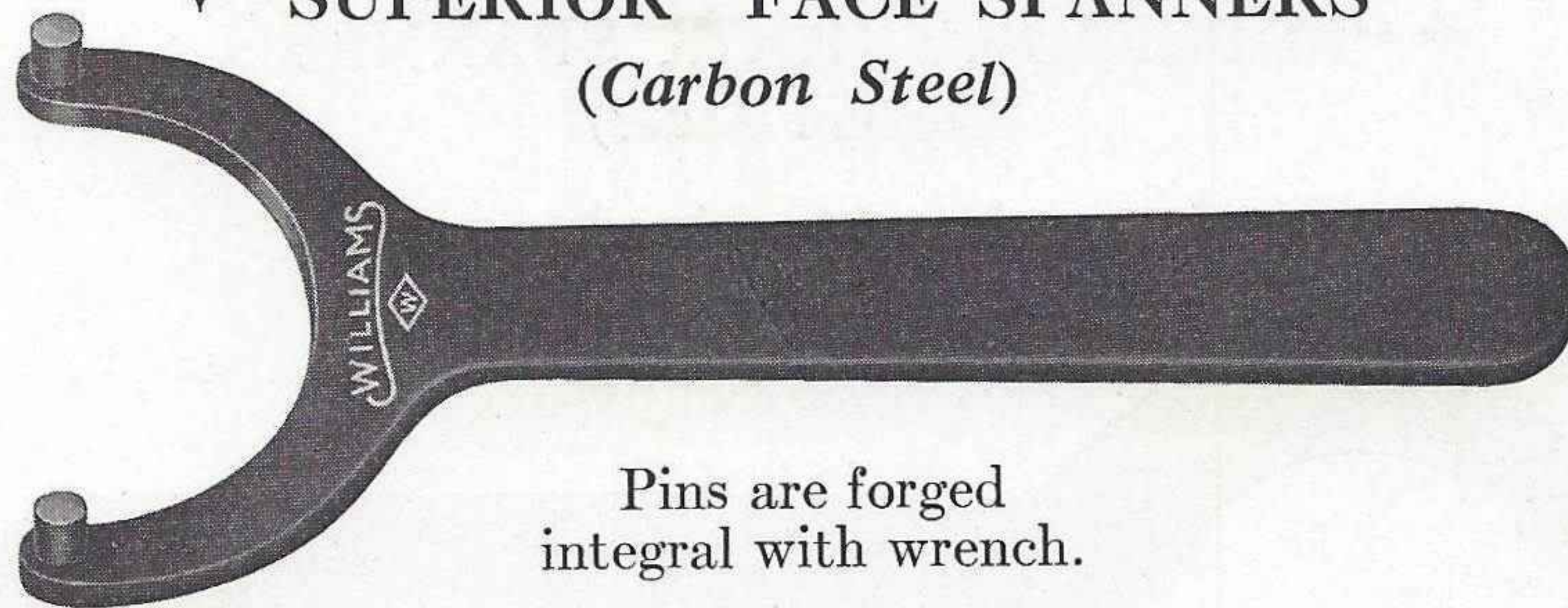
*Based on U.S.S. Nut formula. Actual openings are 1/32 to 1/16" larger for proper clearance on rough nuts.

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

✦ "SUPERIOR" FACE SPANNERS

(Carbon Steel)



Pins are forged
integral with wrench.

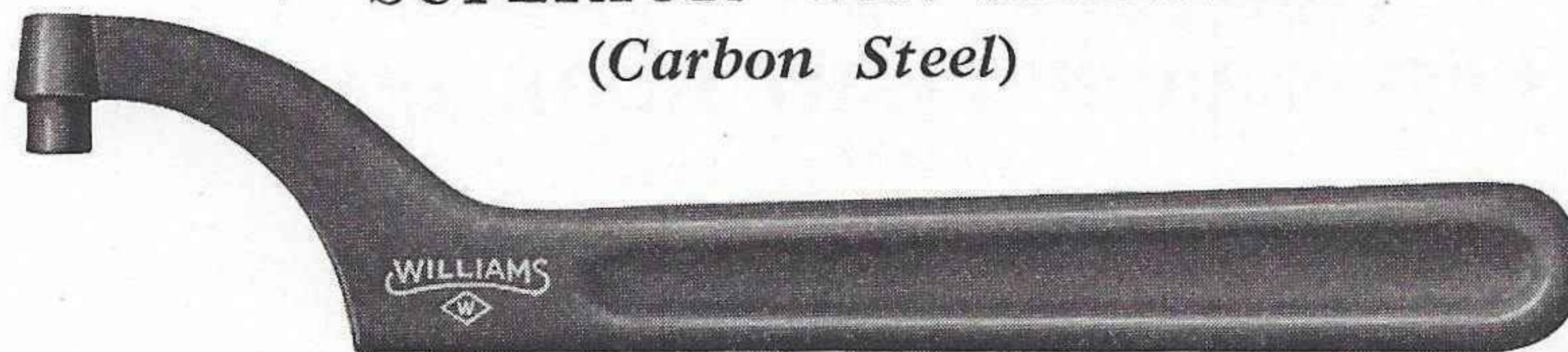
Unfinished have pins milled, are hardened all over and shot-blasted.

Finished, surfaces smoothed, pins milled, hardened all over and black enameled.

No.	Pins			Span of Jaws in Clear	Length from C. of Pins	Thick- ness	PRICE		No.
	Distance C to C	Diam. Milled	Length				Unfinished	Finished	
418	1	3/16	3/16	11/16	4 1/2	3/16	\$.54	\$.60	418
420	1 1/4	7/32	7/32	7/8	5	3/16	.59	.66	420
422	1 1/2	7/32	7/32	1 1/8	5 1/2	3/16	.66	.74	422
424	1 3/4	7/32	7/32	1 3/8	6	7/32	.75	.84	424
426	2	1/4	1/4	1 19/32	6 1/2	7/32	.86	.96	426
428	2 1/4	1/4	1/4	1 27/32	7	7/32	1.00	1.10	428
430	2 1/2	9/32	9/32	2 1/32	7 1/2	1/4	1.15	1.28	430
432	2 3/4	9/32	9/32	2 9/32	8	1/4	1.35	1.48	432
434	3	5/16	5/16	2 1/2	8 1/2	1/4	1.55	1.70	434
436	3 1/4	5/16	5/16	2 3/4	9 1/8	1/4	1.77	1.94	436
438	3 1/2	5/16	5/16	3	9 3/4	1/4	2.00	2.20	438
440	3 3/4	3/8	3/8	3 3/16	10 3/8	1/4	2.30	2.50	440
442	4	3/8	3/8	3 7/16	11	1/4	2.65	2.90	442

✦ "SUPERIOR" PIN SPANNERS

(Carbon Steel)



Pins are forged integral with wrench. For conditions of finish, see above.

Number	For Circle; Diameter	Extreme Length, Approx.	Finished Diameter Pin	PRICE		Number
				Unfinished	Finished	
452	1	4	3/16	\$.44	\$.54	452
453	1 1/4	4 1/2	13/64	.46	.58	453
454	1 1/2	5	7/32	.48	.60	454
455	1 3/4	5 1/2	15/64	.50	.62	455
456	2	6	1/4	.53	.66	456
457	2 1/4	6 1/2	17/64	.57	.70	457
458	2 1/2	7	9/32	.61	.72	458
459	2 3/4	7 1/2	19/64	.65	.78	459
460	3	8	5/16	.70	.84	460
461	3 1/4	8 1/2	21/64	.75	.90	461
462	3 1/2	9	11/32	.80	.96	462
463	3 3/4	9 1/2	23/64	.85	1.02	463
464	4	10	3/8	.90	1.08	464
466	5	12	7/16	1.18	1.44	466
468	6	14	1/2	1.60	1.96	468

Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

✦ "SUPERIOR" HOOK SPANNERS

(Carbon Steel)

Not Machined



The diameter of circle which the unfinished forgings fit is given in second column of table, but wrenches will finish to sizes stated in third column.

No.	Forgings for Circle; Diameter	Forgings will finish for Circles; Diameter	Extreme Length, Approx.	Thickness	PRICE Each	No.
403	1 1/4	1 to 1 1/4	4 3/4	7/32	\$.40	403
404	1 1/2	1 3/8 to 1 5/8	6	1/4	.46	404
405	2	1 3/4 to 2	7 1/8	1/4	.52	405
406	2 1/4	2 1/8 to 2 3/8	8 7/16	1/4	.60	406
407	2 5/8	2 1/2 to 2 3/4	9 3/4	1/4	.68	407
408	3 1/8	2 7/8 to 3 1/4	11	5/16	.80	408
409	3 3/4	3 3/8 to 3 7/8	12	5/16	.96	409
410	4 3/8	4 to 4 1/2	13	5/16	1.16	410
412	5 3/4	5 1/4 to 5 3/4	15	7/16	1.70	412

✦ "SUPERIOR" LIGHT HOOK SPANNERS

(Carbon Steel)

Not Machined



Length of handle can be varied if desired.

No.	For Circle; Diameter	Extreme Length, Approx.	Hook			Diameter Handle	PRICE Each	No.
			Length	Width	Thickness			
491	1 3/16	6 1/2	1/16	3/8	7/32	3/8	\$.30	491
493	1 3/4	7 1/2	1/8	3/8	7/32	3/8	.34	493
494	2 1/8	8	1/8	3/8	7/32	3/8	.36	494
495	2 1/2	8 1/4	1/8	3/8	7/32	3/8	.40	495
496	2 3/4	8 1/2	1/8	3/8	7/32	3/8	.44	496
497	3	8 3/4	1/8	3/8	7/32	3/8	.48	497
498	3 1/2	9	1/8	3/8	7/32	3/8	.52	498

Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

✦ “SUPERIOR” ADJUSTABLE FACE SPANNERS
(Carbon Steel)



Drop-forged from a strong, tough grade of carefully selected steel, this is a desirable and dependable tool for service where Center to Center dimensions vary.

Unfinished have pins milled, are hardened and shot-blasted.

Finished have pins milled, surfaces smooth, hardened, black enameled (baked on).

No.	Extreme Capacity	Extreme Length, Approx.	Diameter of Pins	PRICE		No.
				Unfin-ished	Finished	
482	2	6 3/8	3/16	\$ 1.35	\$ 1.50	482
483	3	8 1/4	1/4	2.00	2.20	483
484	4	10 3/8	5/16	2.95	3.20	484

✦ “SUPERIOR” ADJUSTABLE HOOK SPANNERS
(Carbon Steel)



These Spanners offer an unusual combination of strength and ready adjustment; each tool provides for a wide range of sizes—see table. Drop-forged from a strong, tough grade of carefully selected steel, surfaces smoothed, black enameled (baked on); jaw hardened and tempered.

Sold individually, or in Set No. 400 which is especially serviceable on spindle bearings of lathes, milling machines and grinding machines. Also, for adjusting collars and slotted rings used on many types of automatic machines.

SET No. 400
LIST PRICE, Complete—\$ 7.25
In Leatherette Roll
1 Each, Nos. 471, 472, 474.

No.	Capacity for Circles, Diameter	Extreme Length, Approx.	Thickness		Depth Hook	PRICE	No.
			Handle	Hook		Finished	
471	3/4 to 2	6 3/8	1/4	11/32	1/8	\$ 1.75	471
472	1 1/4 to 3	8 1/8	9/32	13/32	5/32	2.00	472
474	2 to 4 3/4	11 3/8	5/16	15/32	3/16	2.75	474

Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

♦“SUPERIOR” SOCKET WRENCHES
(Carbon Steel)



STRAIGHT PATTERN

With or Without Pin-Handle

Unhardened are broached and shot-blasted.

Finished are broached, surface smooth, hardened and black enameled (baked on); face bright.

For Whitworth Standard, see page 162.

Special broaching to order in reasonable quantities.

(Continued on following page)

Finished Wrenches with Pin-Handles
will be supplied, unless otherwise specified.

No.	HEXAGON OPENINGS					Diam. of Head	Extreme Length, Approx.	PRICE				No.
	For U. S. Std. Nut; Size Bolt	For Cap Screw; Diam. Screw	For S.A.E. Std. Nut; Size Bolt	For Amer. Std. Nut; Regular & Jam	Nomi- nal Opening Across Flats			Unhardened		Finished		
								With- out Pin- Han- dle	With Pin- Han- dle	With- out Pin- Han- dle	With Pin- Han- dle	
961 A	1/8				5/16	1/2	4 1/4	\$.40	\$.60	\$.60	\$.80	961 A
962 D		3/16			3/8	5/8	4 1/2	.44	.66	.66	.88	962 D
963 A	3/16				13/32	11/16	4 7/8	.48	.74	.72	.98	963 A
963 D		1/4	1/4	1/4	7/16	11/16	4 7/8	.48	.74	.72	.98	963 D
964 A	1/4	5/16	5/16		1/2	3/4	5 1/4	.52	.78	.78	1.04	964 A
965 D		3/8	3/8	5/16	9/16	7/8	5 3/4	.58	.86	.88	1.16	965 D
965 A	5/16				19/32	7/8	5 3/4	.58	.86	.88	1.16	965 A
966 D		7/16	7/16	3/8	5/8	1	6 1/8	.64	.94	.96	1.26	966 D
967 A	3/8				11/16	1 1/8	6 1/2	.72	1.06	1.08	1.42	967 A
967 D		1/2	1/2	7/16	3/4	1 1/8	6 1/2	.72	1.06	1.08	1.42	967 D
968 A	7/16				25/32	1 1/4	7	.80	1.14	1.20	1.54	968 A
968 D		9/16		1/2	13/16	1 1/4	7	.80	1.14	1.20	1.54	968 D
969 A	1/2	5/8	9/16	9/16	7/8	1 3/8	7 3/8	.92	1.28	1.38	1.74	969 A
970 S			5/8		15/16	1 1/2	7 7/8	1.04	1.44	1.56	1.96	970 S
970 A	9/16				31/32	1 1/2	7 7/8	1.04	1.44	1.56	1.96	970 A
970 D		3/4	11/16	5/8	1	1 1/2	7 7/8	1.04	1.44	1.56	1.96	970 D
971 A	5/8		3/4		1 1/16	1 5/8	8 1/4	1.20	1.60	1.80	2.20	971 A
971 D		7/8		3/4	1 1/8	1 5/8	8 1/4	1.20	1.60	1.80	2.20	971 D
973 A	3/4		7/8		1 1/4	1 7/8	9 1/8	1.60	2.20	2.40	3.00	973 A
*973 B		1		7/8	1 5/16	1 7/8	9 1/8	1.60	2.20	2.40	3.00	*973 B
975 A	7/8		1		1 7/16	2 1/8	10	2.00	2.70	3.00	3.70	975 A
975 D		1 1/8		1	1 1/2	2 1/8	10	2.00	2.70	3.00	3.70	975 D
976 A	1		1 1/8		1 5/8	2 3/8	10 3/8	2.30	3.10	3.44	4.24	976 A
*976 B		1 1/4		1 1/8	1 11/16	2 3/8	10 3/8	2.30	3.10	3.44	4.24	*976 B
977 A	1 1/8		1 1/4		1 13/16	2 5/8	10 7/8	2.60	3.50	3.90	4.80	977 A
*977 B				1 1/4	1 7/8	2 5/8	10 7/8	2.60	3.50	3.90	4.80	*977 B
978 A	1 1/4		1 3/8		2	2 7/8	11 3/8	3.20	4.10	4.80	5.70	978 A
979 A	1 3/8		1 1/2		2 3/16	3	11 7/8	4.20	5.20	6.30	7.30	979 A
*979 B				1 1/2	2 1/4	3	11 7/8	4.20	5.20	6.30	7.30	*979 B
980 A	1 1/2				2 3/8	3 5/16	12 1/2	5.60	6.90	8.40	9.70	980 A

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

◆“SUPERIOR” SOCKET WRENCHES

(Carbon Steel)

STRAIGHT PATTERN

With or Without Pin-Handle

(Continued from previous page)

Hexagon end of shank is designed for use in combination with another wrench or with Pin-Handle.

Wrenches of shorter or longer lengths than stated in table can be furnished to order in quantities.

*Furnished from stock until supply is exhausted; thereafter only on special order.

Finished Wrenches with Pin-Handles will be supplied, unless otherwise specified.



No.	SQUARE OPENINGS					Diam. of Head	Ex- treme Length, Approx.	PRICE				No.
	For U. S. Std. Nut; Size Bolt	For Cap Screw; Diam. Screw	For Set Screw; Size	For Amer. Std. Nut; Regular & Jam	Nominal Opening			Unhardened		Finished		
								With- out Pin- Han- dle	With Pin- Han- dle	With- out Pin- Han- dle	With Pin- Han- dle	
960H	.....	.....	1/8	.....	1/8	5/16	3 3/4	\$.36	\$.52	\$.54	\$.70	960H
961H	.....	.....	3/16	.....	3/16	1/2	4 1/4	.40	.60	.60	.80	961H
961J	.....	.....	1/4	.....	1/4	1/2	4 1/4	.40	.60	.60	.80	961J
962H	.....	.....	5/16	.....	5/16	5/8	4 1/2	.44	.66	.66	.88	962H
963H	.....	1/4	3/8	.....	3/8	11/16	4 7/8	.48	.74	.72	.98	963H
965H	.....	5/16	7/16	1/4	7/16	7/8	5 3/4	.58	.86	.88	1.16	965H
966H	1/4	3/8	1/2	.....	1/2	1	6 1/8	.64	.94	.96	1.26	966H
967H	.....	7/16	9/16	5/16	9/16	1 1/8	6 1/2	.72	1.06	1.08	1.42	967H
*967X	5/16	.....	.....	.....	19/32	1 1/8	6 1/2	.72	1.06	1.08	1.42	*967X
968H	.....	1/2	5/8	3/8	5/8	1 1/4	7	.80	1.14	1.20	1.54	968H
968P	3/8	9/16	.....	.....	11/16	1 1/4	7	.80	1.14	1.20	1.54	968P
969H	.....	5/8	3/4	7/16	3/4	1 3/8	7 3/8	.92	1.28	1.38	1.74	969H
*970H	.....	.....	.....	1/2	13/16	1 1/2	7 7/8	1.04	1.44	1.56	1.96	*970H
971H	1/2	3/4	7/8	9/16	7/8	1 5/8	8 1/4	1.20	1.60	1.80	2.20	971H
*971X	9/16	.....	.....	.....	31/32	1 5/8	8 1/4	1.20	1.60	1.80	2.20	*971X
973H	.....	.....	1	5/8	1	1 7/8	9 1/8	1.60	2.20	2.40	3.00	973H
*974X	5/8	.....	.....	.....	1 1/16	2	9 1/2	1.80	2.50	2.70	3.40	*974X
974H	.....	7/8	1 1/8	3/4	1 1/8	2	9 1/2	1.80	2.50	2.70	3.40	974H
976H	3/4	1	1 1/4	.....	1 1/4	2 3/8	10 3/8	2.30	3.10	3.44	4.24	976H
977N	.....	1 1/8	1 3/8	.....	1 3/8	2 5/8	10 7/8	2.60	3.50	3.90	4.80	977N
977X	7/8	.....	.....	.....	1 7/16	2 5/8	10 7/8	2.60	3.50	3.90	4.80	977X
977P	.....	1 1/4	1 1/2	1	1 1/2	2 5/8	10 7/8	2.60	3.50	3.90	4.80	977P
978P	1	1 3/8	.....	.....	1 5/8	2 7/8	11 3/8	3.20	4.10	4.80	5.70	978P
979X	1 1/8	.....	.....	.....	1 13/16	3	11 7/8	4.20	5.20	6.30	7.30	979X
*980X	1 1/4	.....	.....	.....	2	3 5/16	12 1/2	5.60	6.90	8.40	9.70	*980X

Weights given pages 163 to 170.

◆ REGISTERED TRADE MARK

♦“SUPERIOR” OFFSET SOCKET WRENCHES
(Carbon Steel)



Unhardened are broached and shot-blasted.

Finished are broached, surface smooth, hardened and black enameled, face bright.

For Whitworth Standard, see page 160.

(Continued on following page)

No.	HEXAGON OPENINGS					Diam. of Head	Extreme Length, Approx.	Handle Offset in Clear from Face of Wrench	PRICE		No.
	For U.S. Std. Nut; Size Bolt	For Cap Screw; Diam. Screw	For S.A.E. Std. Screw and Nut	Amer. Std. Nut; Regl. & Jam	Nominal Opening Across Flats				Unhard-ened	Fin-ished	
261A	1/8	.....	.....	.....	5/16	1/2	3 3/8	13/16	\$.40	\$.60	261A
262D	.....	3/16	.....	.....	3/8	5/8	3 7/8	1	.44	.66	262D
263A	3/16	.....	.....	.....	13/32	11/16	4 5/16	1 1/16	.48	.72	263A
263D	.....	1/4	1/4	1/4	7/16	11/16	4 5/16	1 1/16	.48	.72	263D
264A	1/4	5/16	5/16	.....	1/2	3/4	5 1/8	1 1/4	.52	.78	264A
265D	.....	3/8	3/8	5/16	9/16	7/8	5 7/8	1 7/16	.58	.88	265D
265A	5/16	.....	.....	.....	19/32	7/8	5 7/8	1 7/16	.58	.88	265A
266D	.....	7/16	7/16	3/8	5/8	1	6 1/4	1 9/16	.64	.96	266D
267A	3/8	.....	.....	.....	11/16	1 1/8	6 3/4	1 5/8	.72	1.08	267A
267D	.....	1/2	1/2	7/16	3/4	1 1/8	6 3/4	1 5/8	.72	1.08	267D
268A	7/16	.....	.....	.....	25/32	1 1/4	7 1/2	1 13/16	.80	1.20	268A
268D	.....	9/16	.....	1/2	13/16	1 1/4	7 1/2	1 13/16	.80	1.20	268D
269A	1/2	5/8	9/16	9/16	7/8	1 3/8	8 3/8	2	.92	1.38	269A
270S	.....	.....	5/8	.....	15/16	1 1/2	9 1/8	2 3/16	1.04	1.56	270S
270A	9/16	.....	.....	.....	31/32	1 1/2	9 1/8	2 3/16	1.04	1.56	270A
270D	.....	3/4	11/16	5/8	1	1 1/2	9 1/8	2 3/16	1.04	1.56	270D
271A	5/8	.....	3/4	.....	1 1/16	1 5/8	10	2 3/8	1.20	1.80	271A
271D	.....	7/8	.....	3/4	1 1/8	1 5/8	10	2 3/8	1.20	1.80	271D
273A	3/4	.....	7/8	.....	1 1/4	1 7/8	11 5/8	2 3/4	1.60	2.40	273A
*273B	.....	1	.....	7/8	1 5/16	1 7/8	11 5/8	2 3/4	1.60	2.40	*273B
275A	7/8	.....	1	.....	1 7/16	2 1/8	13 1/4	3 1/8	2.00	3.00	275A
275D	.....	1 1/8	.....	1	1 1/2	2 1/8	13 1/4	3 1/8	2.00	3.00	275D
276A	1	.....	1 1/8	.....	1 5/8	2 3/8	14 7/8	3 1/2	2.30	3.44	276A
*276B	.....	1 1/4	.....	1 1/8	1 11/16	2 3/8	14 7/8	3 1/2	2.30	3.44	*276B
277A	1 1/8	.....	1 1/4	.....	1 13/16	2 5/8	16 1/2	3 7/8	2.60	3.90	277A
*277B	.....	.....	.....	1 1/4	1 7/8	2 5/8	16 1/2	3 7/8	2.60	3.90	*277B
278A	1 1/4	.....	1 3/8	.....	2	2 7/8	18 1/4	4 3/8	3.20	4.80	278A
279A	1 3/8	.....	1 1/2	.....	2 3/16	3	20	4 7/8	4.20	6.30	279A
*279B	.....	.....	.....	1 1/2	2 1/4	3	20	4 7/8	4.20	6.30	*279B
280A	1 1/2	.....	.....	.....	2 3/8	3 5/16	21 3/4	5 3/8	5.60	8.40	280A

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

♦“SUPERIOR” OFFSET SOCKET WRENCHES
 (Carbon Steel)



(Continued from previous page)

Special broaching to order in reasonable quantities.

Wrenches of shorter or longer lengths than stated in table can be furnished to order in quantities.

*Furnished from stock until supply is exhausted; thereafter only on special order.

No.	SQUARE OPENINGS					Diam. of Head	Extreme Length, Approx.	Handle Offset in Clear from Face of Wrench	PRICE		No.
	For U. S. Std. Nut; Size Bolt	For Cap Screw; Diam. Screw	For Set Screw; Size	For Amer. Std. Nut; Regular & Jam	Nominal Opening				Unhard-ened	Fin-ished	
260H	.....	.....	1/8	.....	1/8	5/16	2 3/4	9/16	\$.36	\$.54	260H
261H	.....	.....	3/16	.....	3/16	1/2	3 3/8	13/16	.40	.60	261H
261J	.....	.....	1/4	.....	1/4	1/2	3 3/8	13/16	.40	.60	261J
262H	.....	.....	5/16	.....	5/16	5/8	3 7/8	1	.44	.66	262H
263H	.....	1/4	3/8	.....	3/8	11/16	4 5/16	1 1/16	.48	.72	263H
265H	.....	5/16	7/16	1/4	7/16	7/8	5 7/8	1 7/16	.58	.88	265H
266H	1/4	3/8	1/2	.....	1/2	1	6 1/4	1 9/16	.64	.96	266H
267H	.....	7/16	9/16	5/16	9/16	1 1/8	6 3/4	1 5/8	.72	1.08	267H
*267X	5/16	.....	.....	.....	19/32	1 1/8	6 3/4	1 5/8	.72	1.08	*267X
268H	.....	1/2	5/8	3/8	5/8	1 1/4	7 1/2	1 13/16	.80	1.20	268H
268P	3/8	9/16	.....	.....	11/16	1 1/4	7 1/2	1 13/16	.80	1.20	268P
269H	.....	5/8	3/4	7/16	3/4	1 3/8	8 3/8	2	.92	1.38	269H
270X	7/16	.....	.....	.....	25/32	1 1/2	9 1/8	2 3/16	1.04	1.56	270X
270H	.....	.....	.....	1/2	13/16	1 1/2	9 1/8	2 3/16	1.04	1.56	270H
271H	1/2	3/4	7/8	9/16	7/8	1 5/8	10	2 3/8	1.20	1.80	271H
*271X	9/16	.....	.....	.....	31/32	1 5/8	10	2 3/8	1.20	1.80	*271X
273H	.....	.....	1	5/8	1	1 7/8	11 5/8	2 3/4	1.60	2.40	273H
*274X	5/8	.....	.....	.....	1 1/16	2	12 3/8	2 7/8	1.80	2.70	*274X
274H	.....	7/8	1 1/8	3/4	1 1/8	2	12 3/8	2 7/8	1.80	2.70	274H
276H	3/4	1	1 1/4	.....	1 1/4	2 3/8	14 7/8	3 1/2	2.30	3.44	276H
277N	.....	1 1/8	1 3/8	.....	1 3/8	2 5/8	16 1/2	3 7/8	2.60	3.90	277N
277X	7/8	.....	.....	.....	1 7/16	2 5/8	16 1/2	3 7/8	2.60	3.90	277X
277P	.....	1 1/4	1 1/2	1	1 1/2	2 5/8	16 1/2	3 7/8	2.60	3.90	277P
278P	1	1 3/8	.....	.....	1 5/8	2 7/8	18 1/4	4 3/8	3.20	4.80	278P
*279X	1 1/8	.....	.....	.....	1 13/16	3	20	4 7/8	4.20	6.30	*279X
*280X	1 1/4	.....	.....	.....	2	3 5/16	21 3/4	5 3/8	5.60	8.40	*280X

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

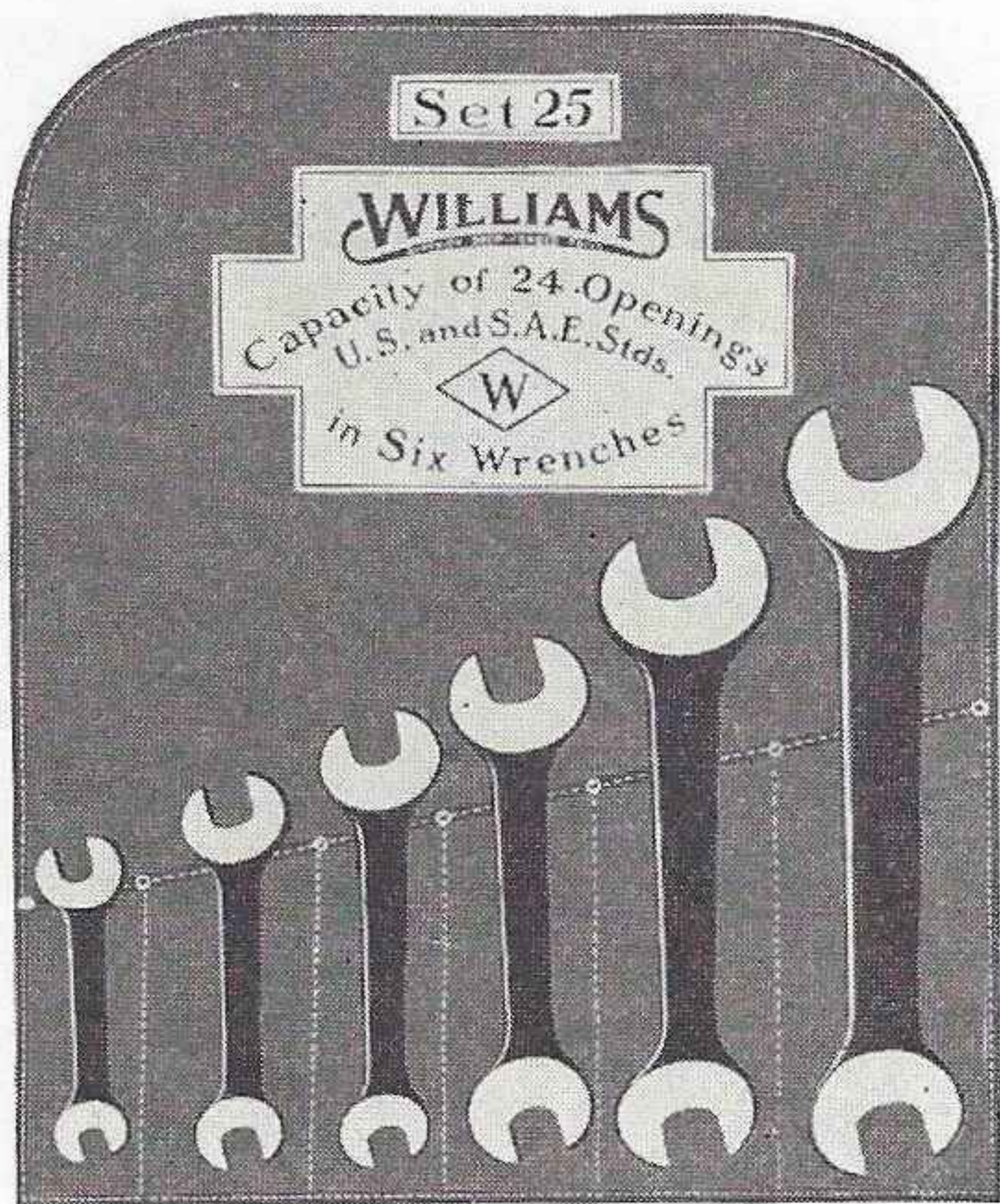
★

“SUPERIOR” DROP-FORGED

(Carbon-Steel)

WRENCH SETS

No Duplication of Openings



No. 25



No. 4

Finished Wrenches are milled, surface smoothed, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

SET No. 25

No.	For U. S. Std. Nuts; Size Bolts	For Hex Head Cap Screws; Diam. Screws	For S.A.E. Std. Nuts; Size Bolts	For Amer. Std. Nuts; Regular and Jam	Nominal Openings	Extreme Length, Approx.	PRICE Each, Finished	No.
723	.....	3/16 & 1/4	.....	1/4	3/8 & 7/16	4 1/4	\$.42	723
25	1/4 & 5/16	5/16	5/16	.....	1/2 & 19/32	5 1/2	.50	25
27C	3/8	3/8	3/8	5/16	9/16 & 11/16	6 1/2	.62	27C
28S	7/16	7/16	7/16	3/8	5/8 & 25/32	7	.74	28S
731A	1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16	3/4 & 7/8	8 3/4	.90	731A
33C	.....	3/4	5/8	5/8	15/16 & 1	9 1/2	1.10	33C
No. 25 SET LIST PRICE Complete, In Khaki Roll, In Cardboard Box							\$ 5.28 4.28	Set 25

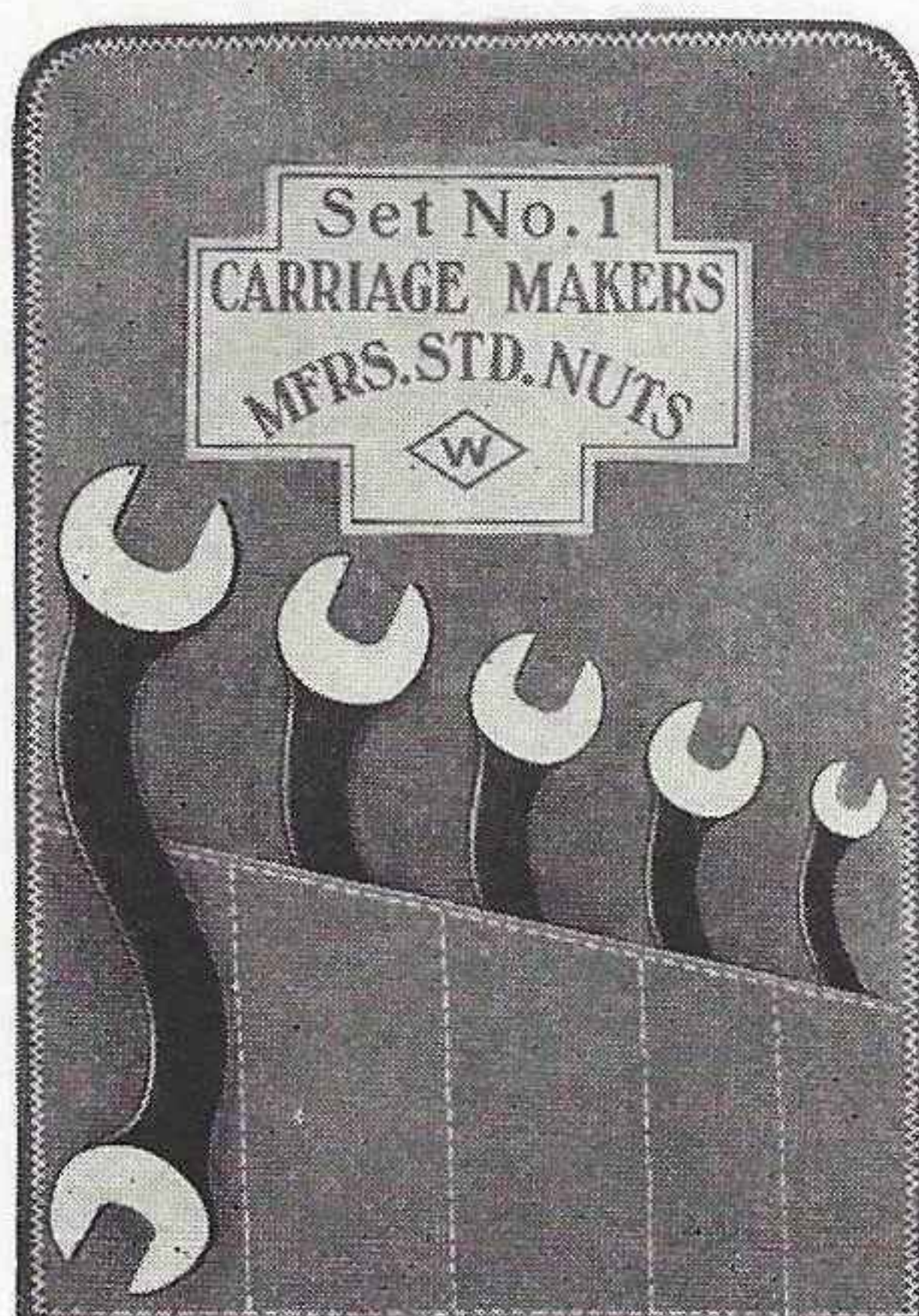
EXTRA CAPACITY SET, “BIG SIX,” No. 4

725	1/4	1/4 & 5/16	1/4 & 5/16	1/4	7/16 & 1/2	5	\$.50	725
27C	3/8	3/8	3/8	5/16	9/16 & 11/16	6 1/2	.62	27C
28	5/16 & 7/16	.....	.....	.....	19/32 & 25/32	7	.74	28
729	.....	7/16 & 1/2	7/16 & 1/2	3/8 & 7/16	5/8 & 3/4	7	.74	729
34	1/2 & 5/8	5/8	9/16 & 3/4	9/16	7/8 & 1 1/16	10 3/4	1.36	34
736	3/4	3/4	7/8	5/8	1 & 1 1/4	12	1.92	736
No. 4 SET LIST PRICE Complete, In Khaki Roll, In Cardboard Box							\$ 6.88 5.88	Set 4

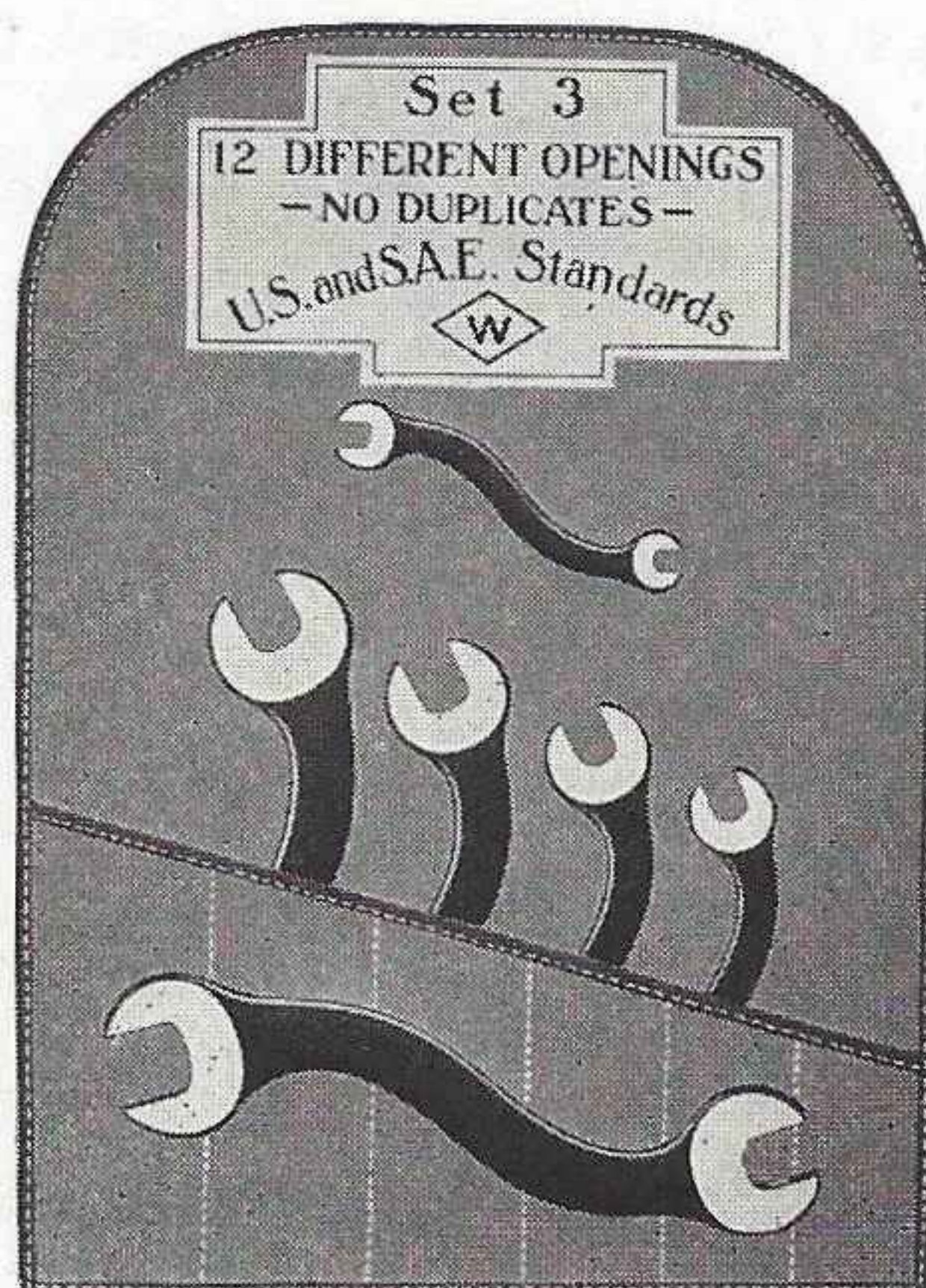
★ REGISTERED TRADE MARK

♦ **“SUPERIOR” DROP-FORGED WRENCH SETS**
(Carbon-Steel)

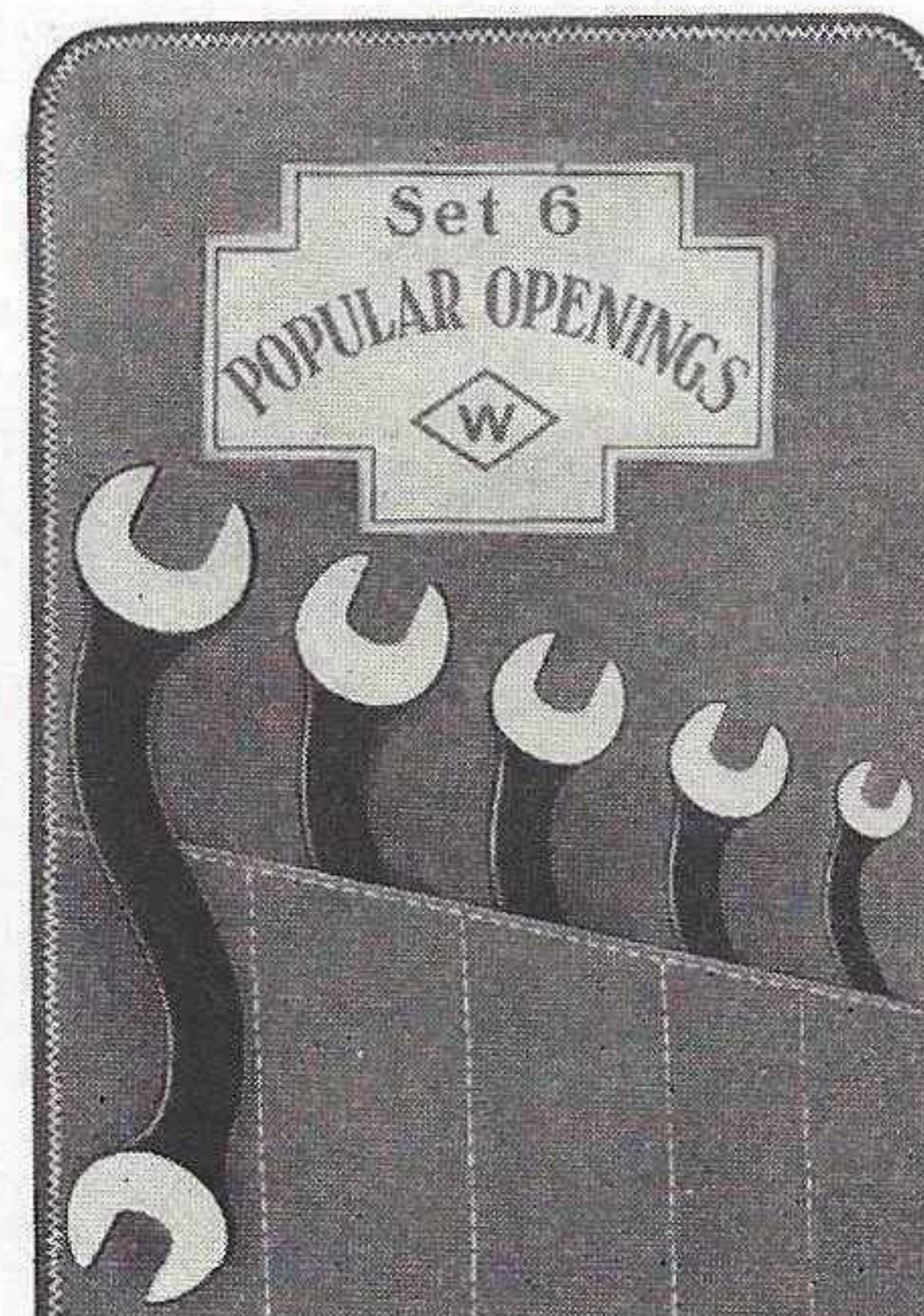
FOR LIGHT SERVICE ONLY



No. 1



No. 3



No. 6

Finished Wrenches are milled, surface smoothed, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

“LIGHT SERVICE” SET NO. 1

No.	For Manu- facturers' Std. Nuts; Size Bolts	For U.S. Std. Nuts; Size Bolts	For Hex. Head Cap Screws; Diam. Screws	For S.A.E. Std. Nuts; Size Bolts	Nominal Openings	Extreme Length, Approx.	Thick- ness Heads	PRICE Each, Fin- ished	No.
75	3/16 & 1/4	3/16 & 1/4	5/16	5/16	13/32 & 1/2	6 1/4	1/4	\$.54	75
77	1/4 & 5/16	1/4	5/16 & 7/16	5/16 & 7/16	1/2 & 5/8	7 1/4	9/32	.68	77
79	5/16 & 3/8	3/8	7/16	7/16	5/8 & 11/16	8 1/4	5/16	.86	79
81	3/8 & 7/16	3/8	.....	.....	11/16 & 27/32	9 1/4	3/8	1.10	81
83	7/16 & 1/2	.....	.....	5/8	27/32 & 15/16	10 3/8	7/16	1.40	83

No. 1 SET LIST PRICE Complete, In Khaki Roll, \$ 5.38 Set
In Cardboard Box 4.28 1

“LIGHT SERVICE” SET NO. 3

No.	For U.S. Std. Nuts; Size Bolts	For Hex. Head Cap Screws; Diam. Screws	For S.A.E. Std. Nuts; Size Bolts	Nominal Openings	Extreme Length, Approx.	Thick- ness Heads	PRICE Each, Fin- ished	No.
75B	.....	3/16 & 1/4	1/4	3/8 & 7/16	6 1/4	1/4	\$.54	75B
77B	1/4	5/16 & 3/8	5/16 & 3/8	1/2 & 9/16	7 1/4	9/32	.68	77B
79	3/8	7/16	7/16	5/8 & 11/16	8 1/4	5/16	.86	79
81B	.....	1/2 & 9/16	1/2	3/4 & 13/16	9 1/4	3/8	1.10	81B
83B	1/2	5/8 & 3/4	9/16	7/8 & 1	10 3/8	7/16	1.40	83B
85B	3/4	7/8	7/8	1 1/8 & 1 1/4	12	1/2	2.00	85B

No. 3 SET LIST PRICE Complete, In Khaki Roll, \$ 7.58 Set
In Cardboard Box 6.58 3

“LIGHT SERVICE” SET NO. 6

75A	.....	3/16 & 5/16	5/16	3/8 & 1/2	6 1/4	1/4	\$.54	75A
77	1/4	5/16 & 7/16	5/16 & 7/16	1/2 & 5/8	7 1/4	9/32	.68	77
79C	.....	7/16 & 1/2	7/16 & 1/2	5/8 & 3/4	8 1/4	5/16	.86	79C
81A	1/2	1/2 & 5/8	1/2 & 9/16	3/4 & 7/8	9 1/4	3/8	1.10	81A
83B	1/2	5/8 & 3/4	9/16	7/8 & 1	10 3/8	7/16	1.40	83B

No. 6 SET LIST PRICE Complete, In Khaki Roll, \$ 5.38 Set
In Cardboard Box 4.58 6

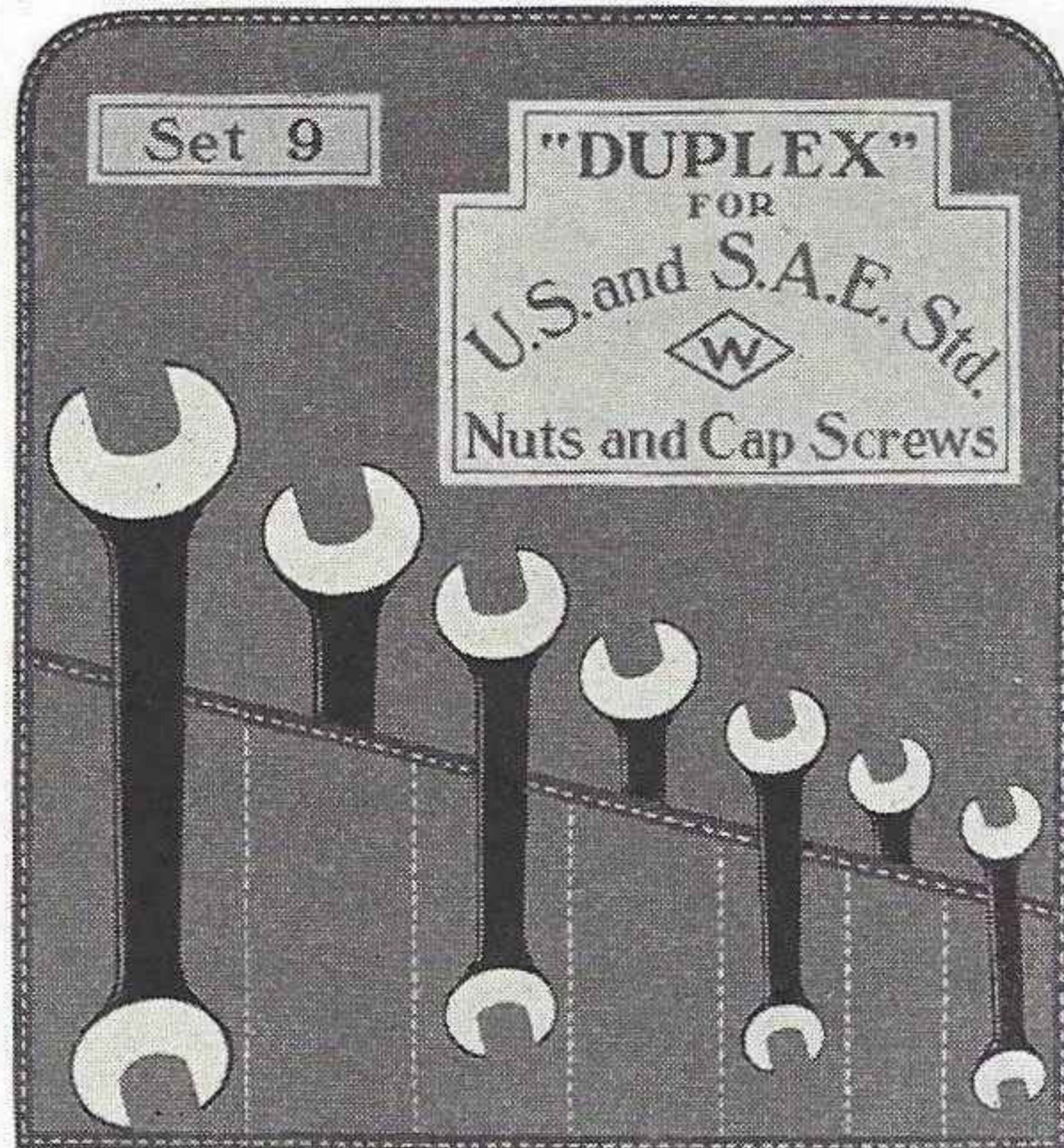
♦ REGISTERED TRADE MARK

★ “SUPERIOR” DROP-FORGED

(Carbon-Steel)

WRENCH SETS

No Duplication of Openings



No. 9



No. 10

Finished Wrenches are milled, surface smoothed, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

“DUPLEX” SET, No. 9

No.	For U. S. Std. Nuts; Size Bolts	For Hex. Head Cap Screws; Diam. Screws	For S.A.E. Std. Nuts; Size Bolts	For Amer. Std. Nuts; Regular and Jam	Nominal Openings	Extreme Length, Approx.	PRICE Each, Finished	No.
725	1/4	1/4 & 5/16	1/4 & 5/16	1/4	7/16 & 1/2	5	\$.50	725
25	1/4 & 5/16	5/16	5/16	.....	1/2 & 19/32	5 1/2	.50	25
27C	3/8	3/8	3/8	5/16	9/16 & 11/16	6 1/2	.62	27C
28S	7/16	7/16	7/16	3/8	5/8 & 25/32	7	.74	28S
731A	1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16	3/4 & 7/8	8 3/4	.90	731A
34	1/2 & 5/8	5/8	9/16 & 3/4	9/16	7/8 & 1 1/16	10 3/4	1.36	34
736	3/4	3/4	7/8	5/8	1 & 1 1/4	12	1.92	736
No. 9 SET LIST PRICE Complete, In Khaki Roll, In Cardboard Box							\$ 7.79 6.54	Set 9

EXTRA CAPACITY SET, “BIG TEN,” No. 10

721	1/8	1/8 & 3/16	.....	.....	5/16 & 3/8	4	\$.34	721
23	3/16 & 1/4	5/16	.....	.....	13/32 & 1/2	4 5/8	.42	23
725A	.....	1/4 & 3/8	1/4 & 3/8	1/4 & 5/16	7/16 & 9/16	5	.50	725A
27	5/16 & 3/8	.....	.....	.....	19/32 & 11/16	6 1/2	.62	27
729	.....	7/16 & 1/2	7/16 & 1/2	3/8 & 7/16	5/8 & 3/4	7	.74	729
731B	1/2	9/16 & 5/8	9/16	1/2 & 9/16	13/16 & 7/8	8 3/4	.90	731B
32	7/16 & 9/16	.....	.....	.....	25/32 & 31/32	9 1/2	1.10	32
33C	.....	3/4	5/8	5/8	15/16 & 1	9 1/2	1.10	33C
737	3/4	7/8	7/8	3/4	1 1/8 & 1 1/4	12	1.92	737
38	5/8 & 7/8	.....	3/4 & 1	.....	1 1/16 & 1 7/16	13 1/2	2.80	38
No. 10 SET LIST PRICE Complete, In Khaki Roll, In Cardboard Box							\$12.19 10.44	Set 10

★ REGISTERED TRADE MARK

"ALWAYS READY" WRENCHES



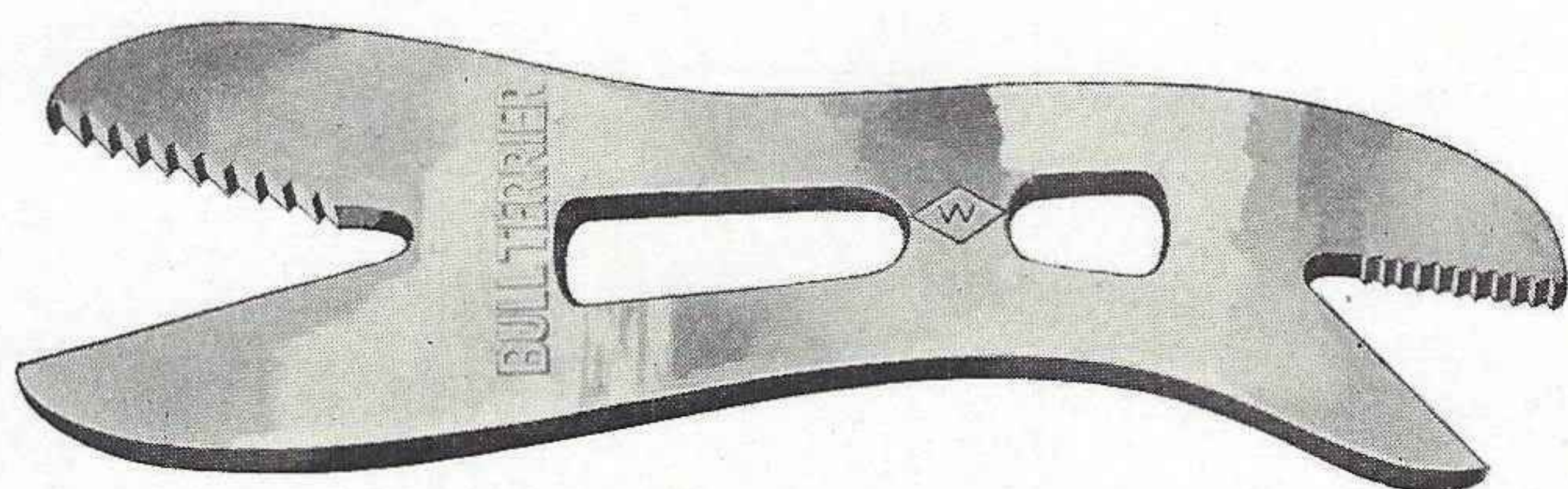
Their jaws grip! Round, square, hexagon—in fact, any and every shape that will fit between the tough, oil-tempered jaws of Williams' "Always Ready" Wrenches; their strong, sharp teeth bite instantly and hold with a slipless grip.

These Wrenches are drop-forged from a specially fine grade of steel and carefully tempered in oil—solid, dependable tools that are practically indestructible.

Packed; 6 in paper box.

No.	Capacity		Extreme Length	Weight Per Doz. Lbs.	PRICE Each	No.
	Pipe	Rounds				
1	1/8 to 3/8	1/4 to 3/4	5	4.4	\$.40	1
2	1/8 to 1	1/4 to 1 1/4	7	9.	.55	2
2 1/2	1/8 to 1 1/2	1/4 to 1 3/4	9 1/2	20.	.85	2 1/2
3	1/2 to 1 1/2	3/4 to 2	11 1/2	32.	1.25	3

"BULL TERRIER" WRENCHES

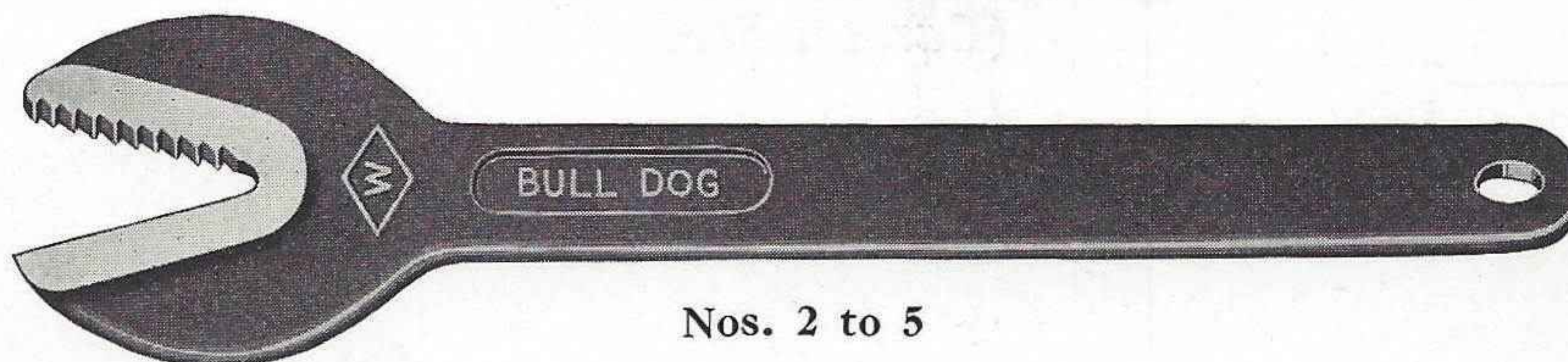


PRICE, each \$.55

Length 5 1/2 inches. Holds Pipe 1/8 to 3/8; Rounds, 1/4 to 3/4 inch. Jaws are oil tempered and entire Wrench is polished and oiled.

Packed; 6 Wrenches in paper box; weight per dozen, 3 3/4 lbs.

“BULL DOG” WRENCHES



Nos. 2 to 5



No. 0 Pocket Size



No. 1 1/2



No. 1



No. 1 3/4



Twin

Because of their simplicity, strength, efficiency and ease of operation, Williams' "Bull Dog" Wrenches are the best line made for all-around service. Their wide field of service makes them most desirable tools for use in connection with machine shops, repair shops, garages, agricultural implements, etc., etc.

These Wrenches are drop-forged from a specially fine grade of steel and carefully tempered in oil—solid, dependable tools that are practically indestructible.

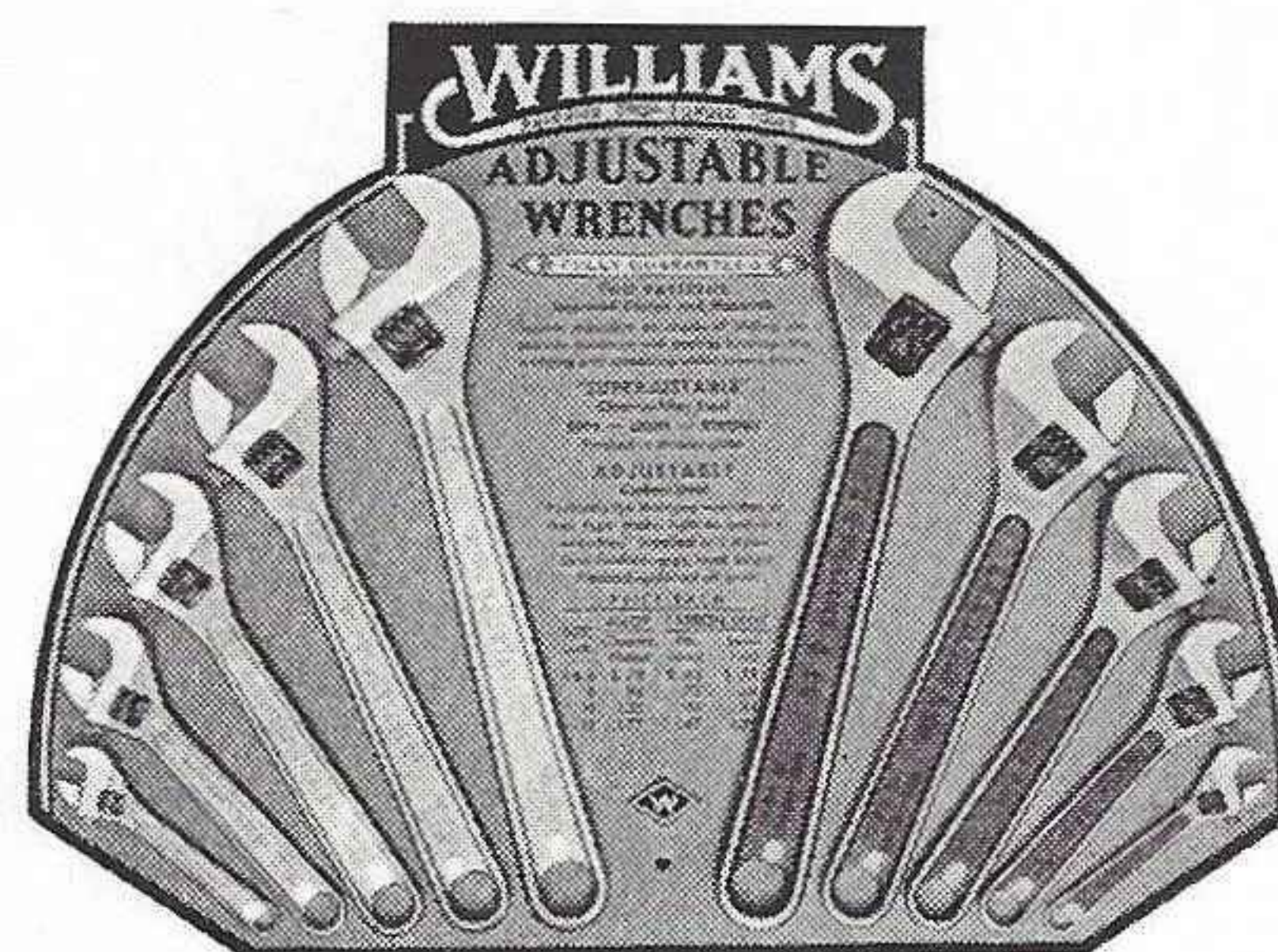
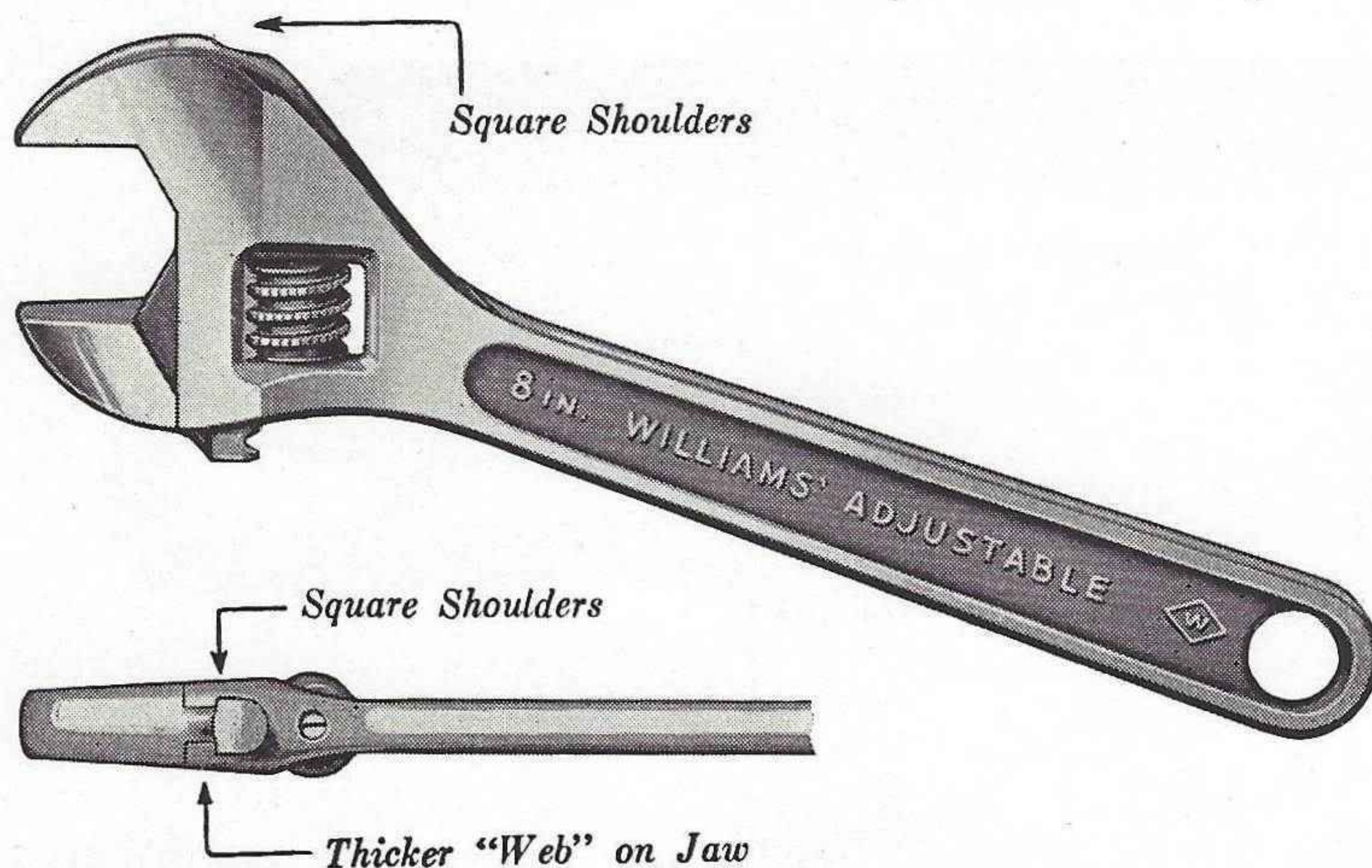
The handles of Nos. 2 and 2 1/2 are concave.

Packed: Nos. 0 and 1, 12 in paper box; Nos. 1 1/2 to 2 and Twin, 6 in a box.

No.	Capacity		Extreme Length	Weight per Doz. Lbs.	PRICE, Each	No.
	Pipe	Rounds				
0	1/8 to 1/4	1/4 to 9/16	4	1.	\$.25	0
1	1/8 to 3/8	1/4 to 3/4	5 1/2	3.	.35	1
1 1/2	1/8 to 1/2	3/8 to 7/8	5 1/2	3.5	.50	1 1/2
1 3/4	1/8 to 3/4	3/8 to 1	7	7.5	.75	1 3/4
2	1/4 to 3/4	1/2 to 1	9	9.	1.00	2
2 1/2	3/8 to 1	5/8 to 1 1/4	12 1/2	16.5	1.50	2 1/2
3	1/2 to 1 1/4	3/4 to 1 1/2	16	38.	2.00	3
3 1/2	1/2 to 1 1/2	3/4 to 1 3/4	18 3/4	48.	2.50	3 1/2
4	3/4 to 2	1 to 2 1/4	22	97.	3.00	4
4 1/2	1 to 2 1/2	1 1/4 to 2 3/4	24	128.	4.00	4 1/2
5	2 to 3	2 1/4 to 3 1/2	27	158.	5.00	5
Twin	1/8 to 3/4	5/16 to 1	10	13.5	1.50	Twin

ADJUSTABLE WRENCHES

(Carbon Steel)



DISPLAY CARD
 19-3/4 x 15"
 Free with purchase
 of Wrenches

Fully Guaranteed

These are positively the strongest Carbon Steel Wrenches of their type now made. Their considerably greater strength, as compared with others, is due to improved design and materials—no increase in size.

Square shoulders on the shank portion of the sliding jaw provide maximum and positive bearing against working stress. They eliminate entirely the wedging and spreading action, inevitable in wrenches having a cylindrical bearing at this point. The shoulders also permit a thicker "web" on the jaw, for added strength, without increasing the thickness of the wrench head. The net result is a sliding jaw that is unbreakable in wrench service.

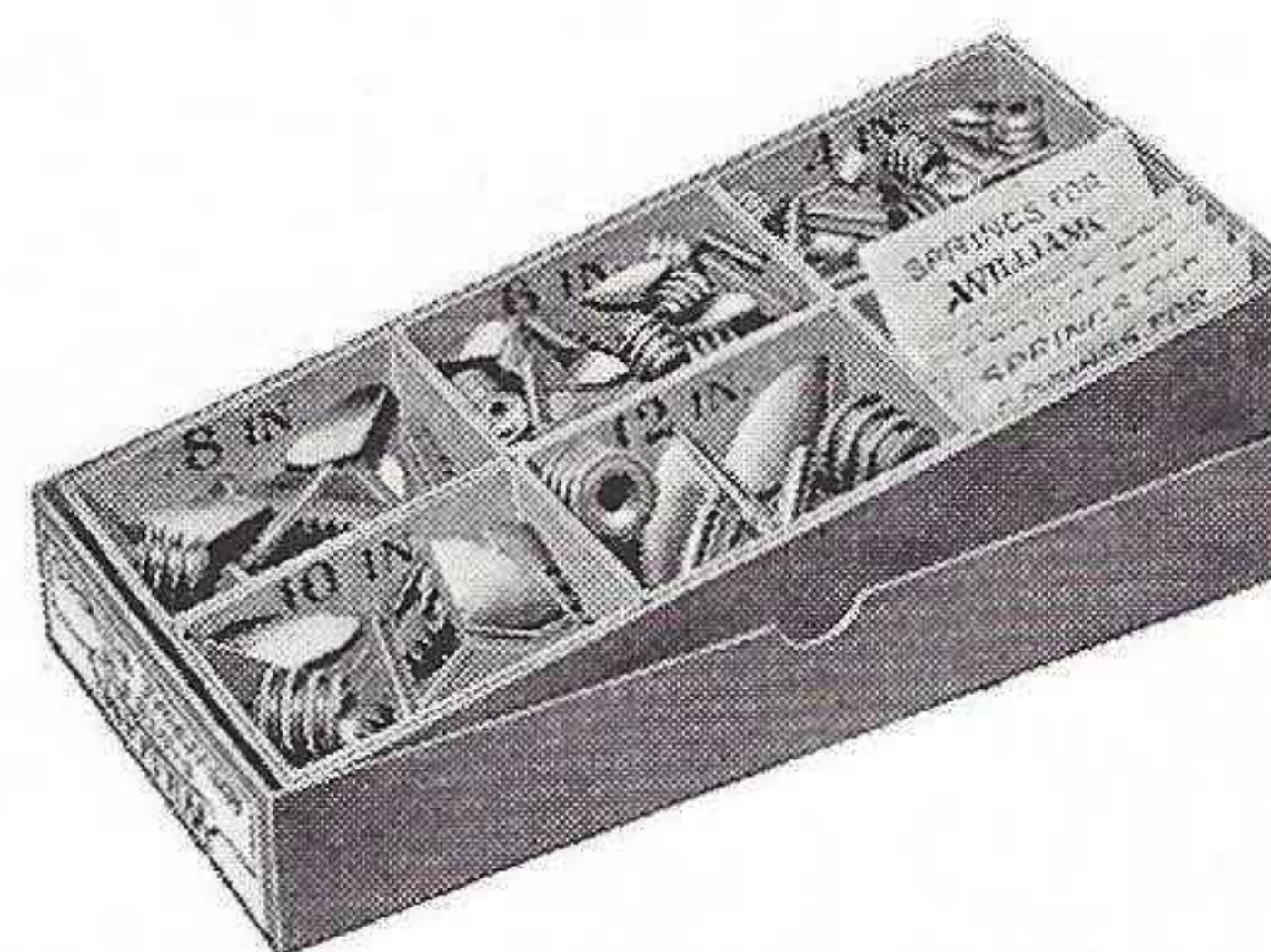
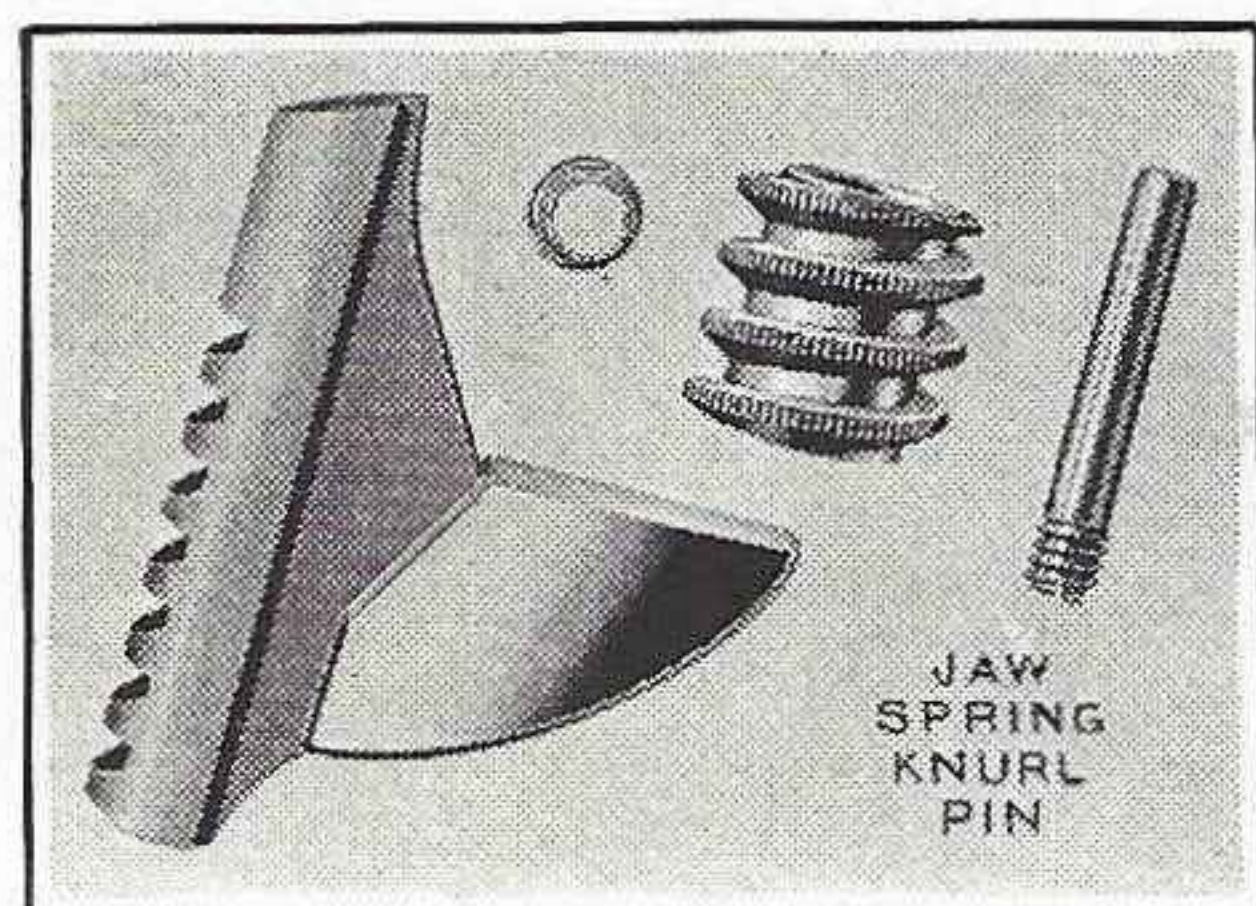
Drop-forged from specially strong, tough steel and accurately heat-treated in electric furnaces for uniform, dependable strength. Supplied in two styles: Finished in natural polished steel; Semi-finished are shot-blasted, heads bright. Packed, individually, in attractive cardboard box.

REPLACEMENT PARTS ASSORTMENT

Packed in compartment cardboard box containing 88 of the following parts:—

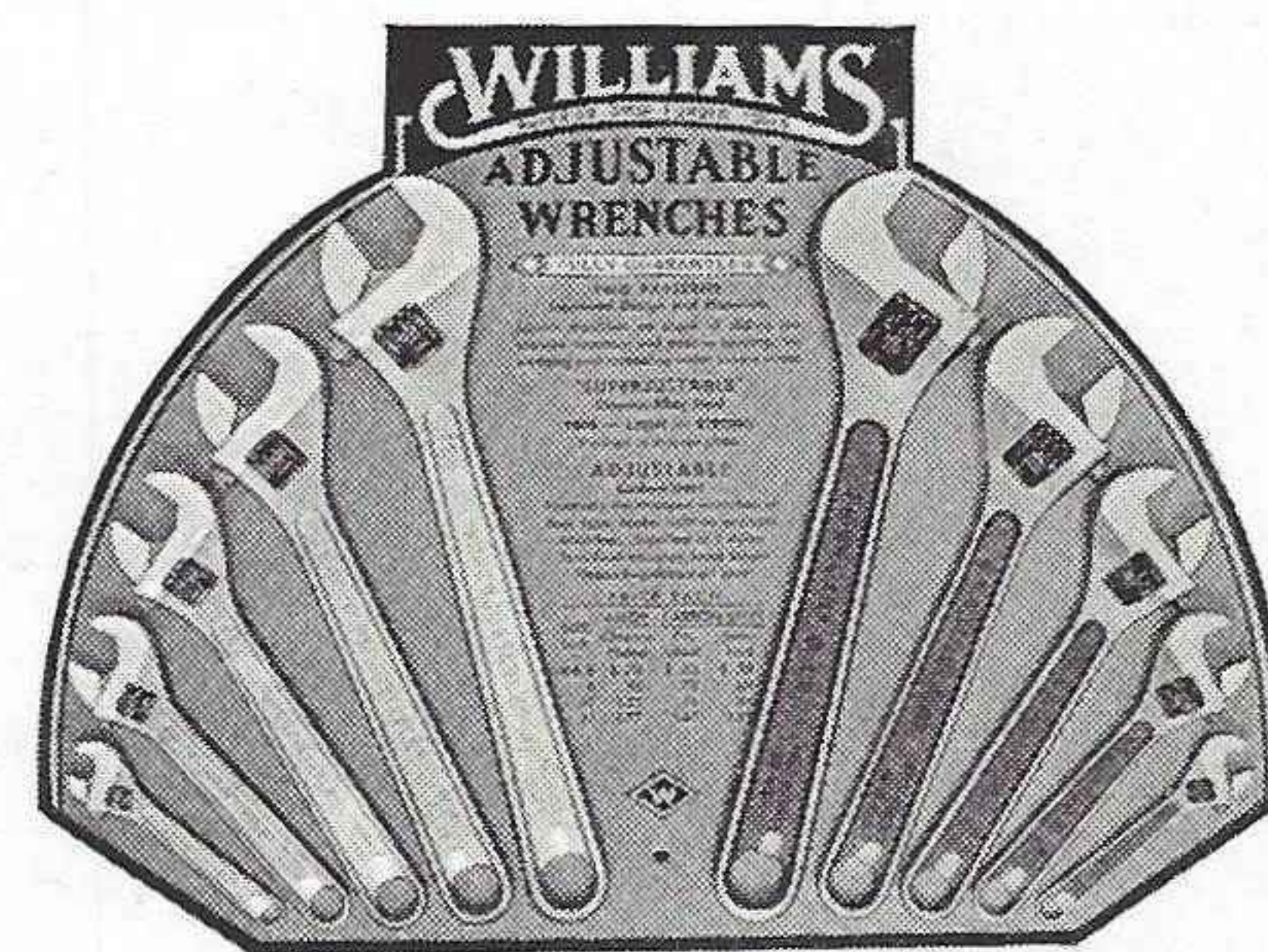
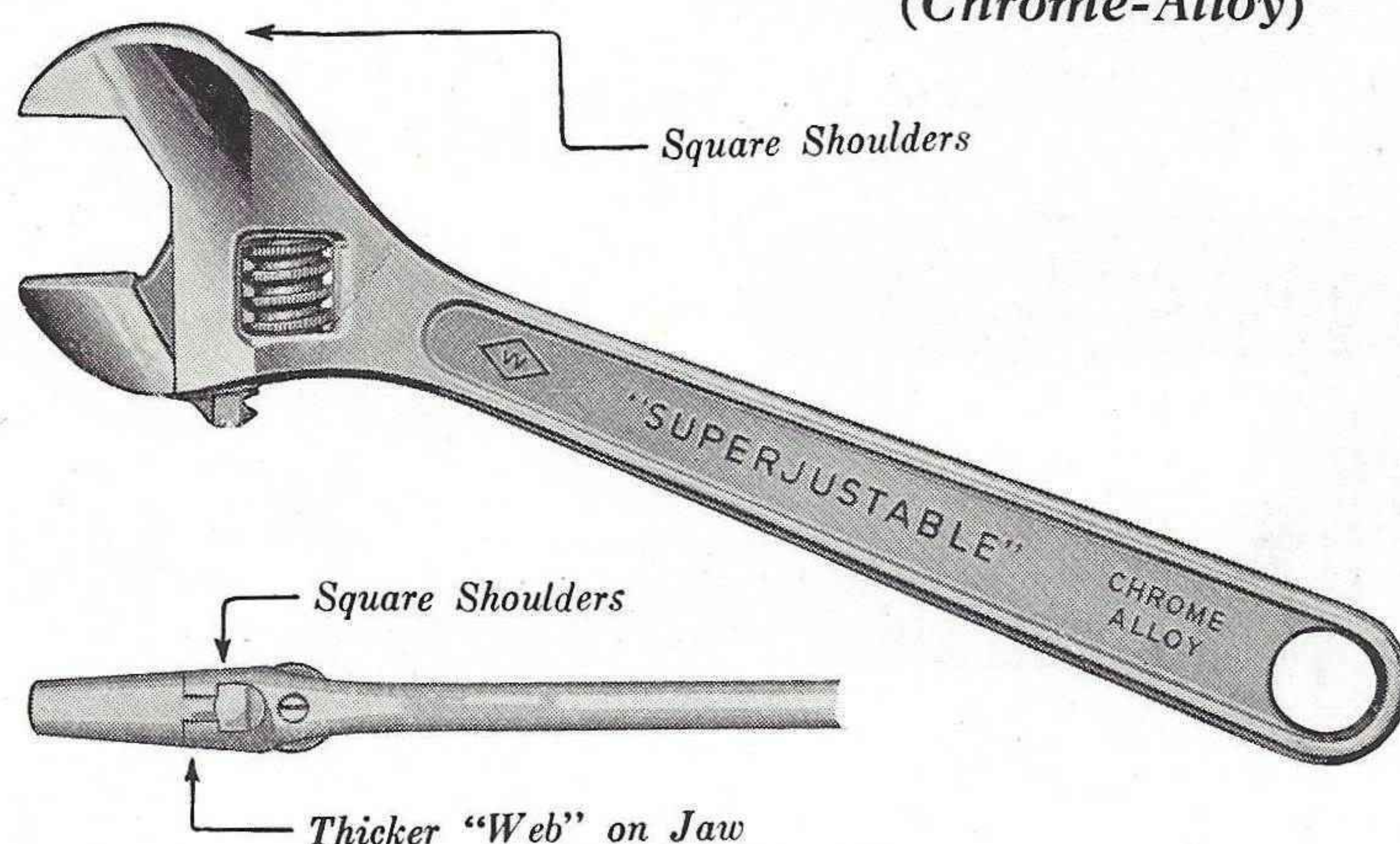
Size	Jaws	Knurls	Pins	Springs
4"	4	4	4	4
6"	6	6	6	6
8"	6	6	6	6
10"	4	4	4	4
12"	2	2	2	2

LIST PRICE, Complete—\$17.20



Size, Inch	PRICE, Each		Capac- ity	Thickness, Head		Net Weight, Each	Extra Parts—Price, Each				Size, Inch
	Fin- ished	Semi- fin- ished		Tip of Jaws	Extreme		Jaw	Knurl	Pin	Spring	
4	\$1.05	\$.92	1/2	9/64	5/16	2 oz.	\$.35	\$.15	\$.06	\$.06	4
6	1.05	.92	3/4	19/64	29/64	5 oz.	.35	.15	.06	.06	6
8	1.30	1.15	15/16	3/8	17/32	10 oz.	.44	.18	.06	.06	8
10	1.60	1.40	1 1/8	33/64	23/32	17 oz.	.59	.21	.06	.06	10
12	2.45	2.15	1 5/16	39/64	27/32	31 oz.	.88	.35	.15	.06	12

★ "SUPERJUSTABLE" WRENCHES (Chrome-Alloy)



DISPLAY CARD

19-3/4 x 15"

Free with purchase
of Wrenches

Fully Guaranteed

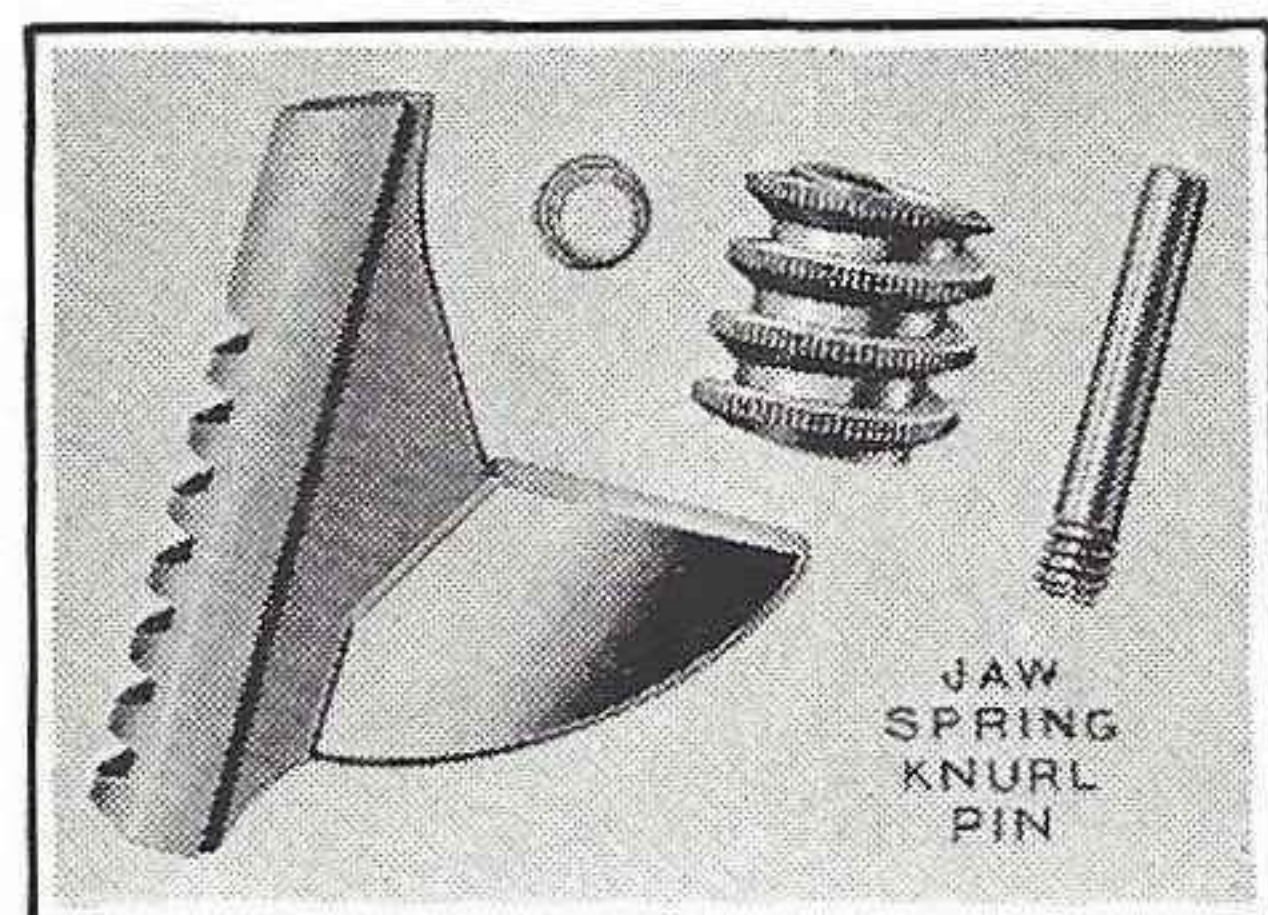
Williams' "Superjustable" Wrenches with thin, tapered jaws, are drop-forged from the finest grade of Chrome-Alloy Steel obtainable for the purpose. "Superjustables" are thinner and lighter, yet stronger and tougher than conventional carbon steel adjustable wrenches of similar capacity. They are second to no other alloy steel adjustable wrenches in appearance, strength and durability.

Square shoulders on the shank portion of the sliding jaw provide maximum and positive bearing against working stress. They eliminate entirely the wedging and spreading action, inevitable in wrenches having a cylindrical bearing at this point. The shoulders also permit a thicker "web" on the jaw, for added strength, without increasing the thickness of the wrench head. The net result is a sliding jaw with maximum resistance to breakage.

All parts are carefully machined to extremely close limits, assuring the accurate fit essential in wrenches of this class. Heat-treatment in recording electric furnaces of the latest type insures uniformity of product and tough, dependable strength.

Attractively finished in chrome-plate over nickel, with highly polished head; the handle is in "satin" finish. Packed, individually, in a distinctive cardboard box.

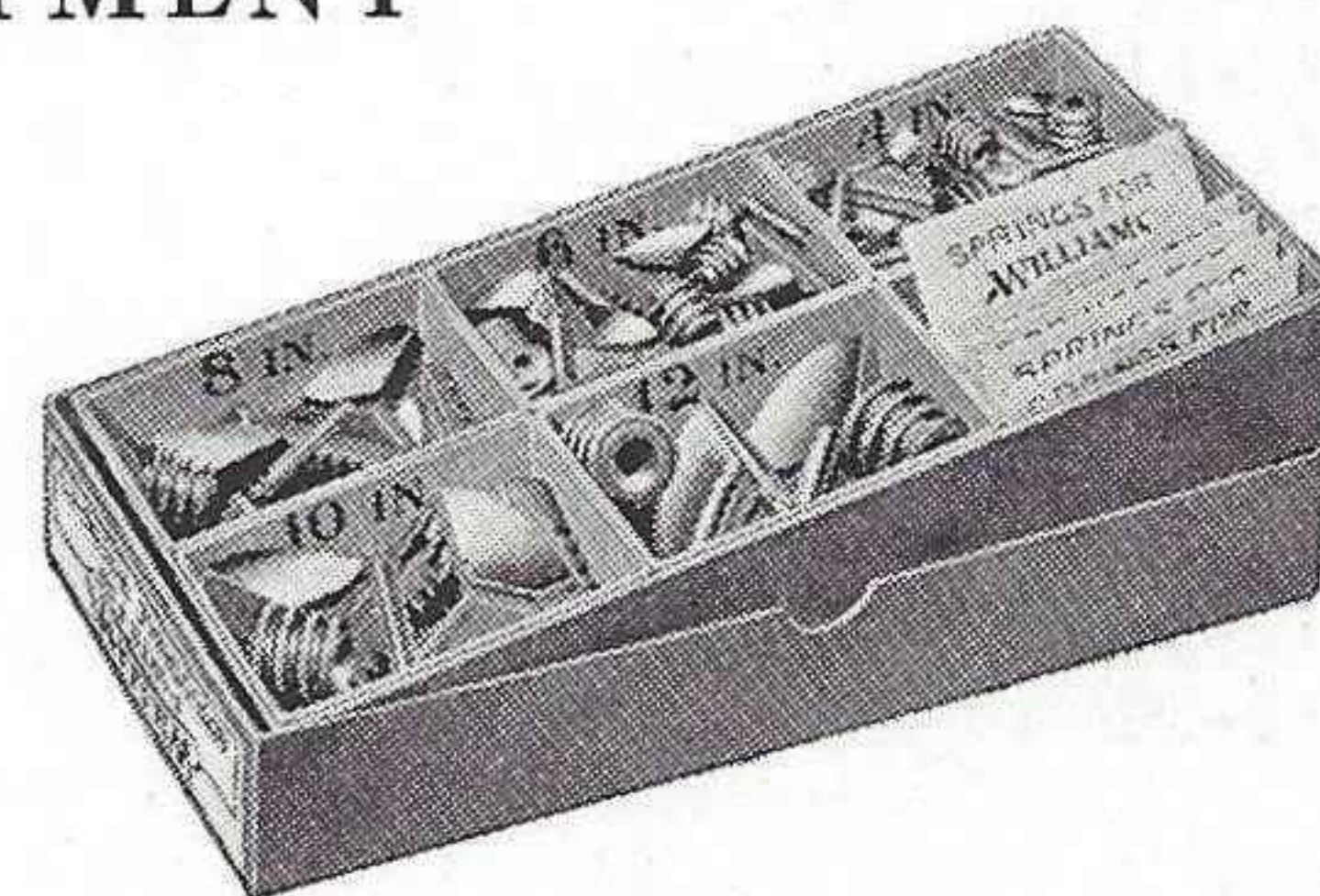
REPLACEMENT PARTS ASSORTMENT



Packed in compartment cardboard box containing 88 of the following parts:—

Size	Jaws	Knurls	Pins	Springs
4"	4	4	4	4
6"	6	6	6	6
8"	6	6	6	6
10"	4	4	4	4
12"	2	2	2	2

LIST PRICE, Complete—\$20.45



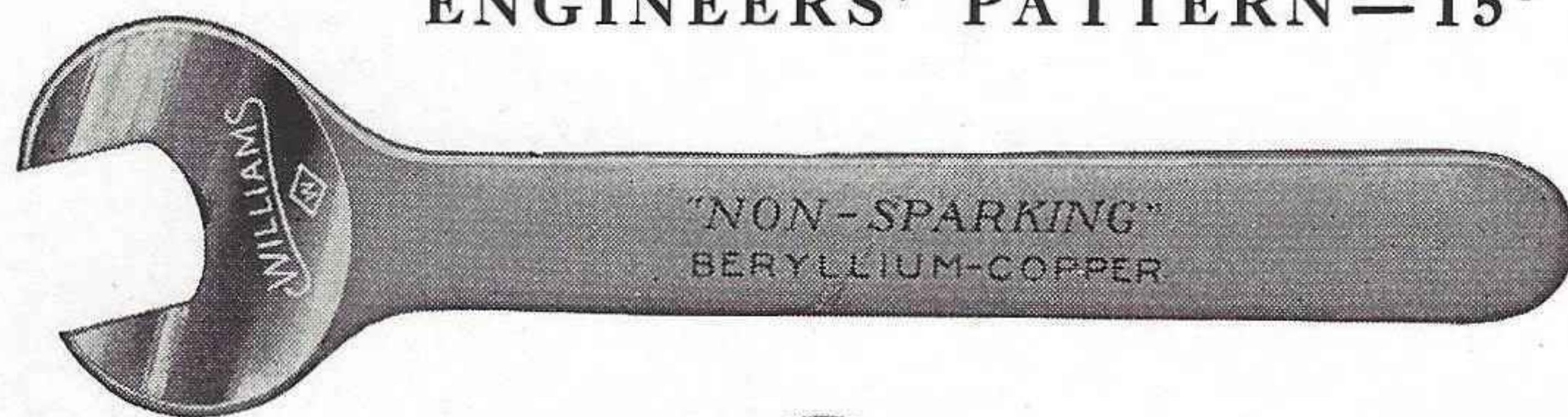
Size, Inches	PRICE Each	Capacity	Thickness Head		Net Weight, Each	Extra Parts—Price, Each				Size, Inches
			Tip of Jaws	Ex- treme		Jaw	Knurl	Pin	Spring	
4	\$1.30	1/2	9/64	5/16	1 1/2 oz.	\$.44	\$.18	\$.06	\$.06	4
6	1.30	3/4	7/32	3/8	3 3/4 oz.	.44	.18	.06	.06	6
8	1.60	15/16	17/64	1/2	7 1/2 oz.	.56	.21	.06	.06	8
10	2.05	1 1/8	23/64	19/32	12 1/2 oz.	.74	.24	.06	.06	10
12	2.95	1 5/16	15/32	23/32	22 1/2 oz.	1.06	.38	.15	.06	12

★ REGISTERED TRADE MARK

"NON-SPARKING" SAFETY WRENCHES

Drop-Forged, Beryllium-Copper

ENGINEERS' PATTERN—15° Angle



Hard
Tough
Strong
Non-Magnetic
Non-Corroding



Williams' "Non-Sparking" Wrenches are especially adapted for use in all industries where great fire hazards exist—paint, varnish, powder and chemical plants, coal mines, oil and gasoline refineries, etc. Indispensable wherever a spark may produce disastrous results.

Drop-forged from Beryllium-Copper and accurately heat-treated, Williams' "Non-Sparking" Wrenches are superior in strength, toughness and hardness to those made of any other known safety ("non-sparking") material. Practically as strong as steel wrenches of similar design and size. Furnished for Whitworth Standard and Metric sizes, if desired.

Finished in "Safety Green" enamel, heads polished bright; opening size stamped.

Additional sizes of Engineers' pattern and approximately 50 other standard patterns in a wide range of sizes, can be furnished in reasonable quantities; prices on application.

Fully Guaranteed

No.	U. S. Std. Nut; Size Bolt	Hex. Head Cap Screw	S.A.E. Std. Nut; Size Bolt	Amer. Std. Regular Nuts	Nominal Opening	Extreme Length, Approx.	PRICE, Each	No.
SINGLE HEAD PATTERN								
G-5	1/2	5/8	9/16	9/16	7/8	8 1/8	\$ 9.15	G-5
G-7	5/8	.....	3/4	.....	1 1/16	10 1/2	13.75	G-7
G-8	3/4	.....	7/8	.....	1 1/4	12	18.10	G-8
G-9	7/8	.....	1	.....	1 7/16	13 1/2	27.70	G-9
G-10	1	.....	1 1/8	.....	1 5/8	15	38.55	G-10
G-11	1 1/8	.....	1 1/4	.....	1 13/16	16 1/2	50.60	G-11
G-12	1 1/4	.....	1 3/8	.....	2	18 1/4	68.65	G-12
DOUBLE HEAD PATTERN								
G-25	1/4 & 5/16	5/16	5/16	.....	1/2 & 19/32	5 1/2	6.25	G-25
G-26	1/4 & 3/8	5/16	5/16	.....	1/2 & 11/16	6	7.50	G-26
G-27	5/16 & 3/8	.....	.....	.....	19/32 & 11/16	6 1/2	7.50	G-27
G-28	5/16 & 7/16	.....	.....	.....	19/32 & 25/32	7	8.90	G-28
G-29	3/8 & 7/16	.....	.....	.....	11/16 & 25/32	7 1/2	8.90	G-29
G-30	3/8 & 1/2	5/8	9/16	9/16	11/16 & 7/8	8	10.85	G-30
G-31	7/16 & 1/2	5/8	9/16	9/16	25/32 & 7/8	8 3/4	10.85	G-31
G-32	7/16 & 9/16	.....	.....	.....	25/32 & 31/32	9 1/2	13.25	G-32
G-33	1/2 & 9/16	5/8	9/16	9/16	7/8 & 31/32	9 1/2	13.25	G-33
G-34	1/2 & 5/8	5/8	9/16 & 3/4	9/16	7/8 & 1 1/16	10 3/4	16.40	G-34
G-35	9/16 & 5/8	.....	3/4	.....	31/32 & 1 1/16	10 3/4	16.40	G-35
G-36	9/16 & 3/4	.....	7/8	.....	31/32 & 1 1/4	12	23.15	G-36
G-37	5/8 & 3/4	.....	3/4 & 7/8	.....	1 1/16 & 1 1/4	12	23.15	G-37
G-38	5/8 & 7/8	.....	3/4 & 1	.....	1 1/16 & 1 7/16	13 1/2	33.75	G-38
G-39	3/4 & 7/8	.....	7/8 & 1	.....	1 1/4 & 1 7/16	13 1/2	33.75	G-39
G-40	3/4 & 1	.....	7/8 & 1 1/8	.....	1 1/4 & 1 5/8	15 1/2	45.75	G-40
G-41	7/8 & 1	.....	1 & 1 1/8	.....	1 7/16 & 1 5/8	15 1/2	45.75	G-41

THE ★“SUPERRENCH” (Chrome-Molybdenum)

FOR many years, Wrenches, like other tools, were made of Carbon Steel, the best material then available. But, with the advent of the automobile, came the insistent demand for stronger, tougher materials that led to the development of Alloy Steels of various grades. Their use permits a refinement in design and a decrease in weight of parts, impossible of attainment in the case of Carbon Steel.

Taking advantage of our experience gained in making to order special forgings of many kinds of Alloy Steel and of our knowledge of wrench requirements and design, we introduced several years ago, a line that is the last word in these tools—THE “SUPERRENCH”.

After exhaustive tests, our special Chrome-Molybdenum Steel was selected as providing the strongest, toughest and most desirable material for the purpose ever produced. Practical experience in the hardest service has since demonstrated the correctness of this selection. Though of lighter weight, thinner section, greater length and with narrower jaws than Carbon Steel Wrenches with corresponding openings, The “Superrench” is absolutely dependable—no matter how small the size, or how hard the work.

Routine or extraordinary jobs “Superrenches” handle all. Their thin heads and pointed jaws get in and grip where no larger wrench *could* go. Where space is limited, a man needs a tool that’s a help—not a hindrance. And in any event, he wants a wrench on which he can pull his last ounce, if necessary, and know the tool will take all he can give it. That’s The “Superrench”.

Every “SUPERRENCH” is Fully Guaranteed

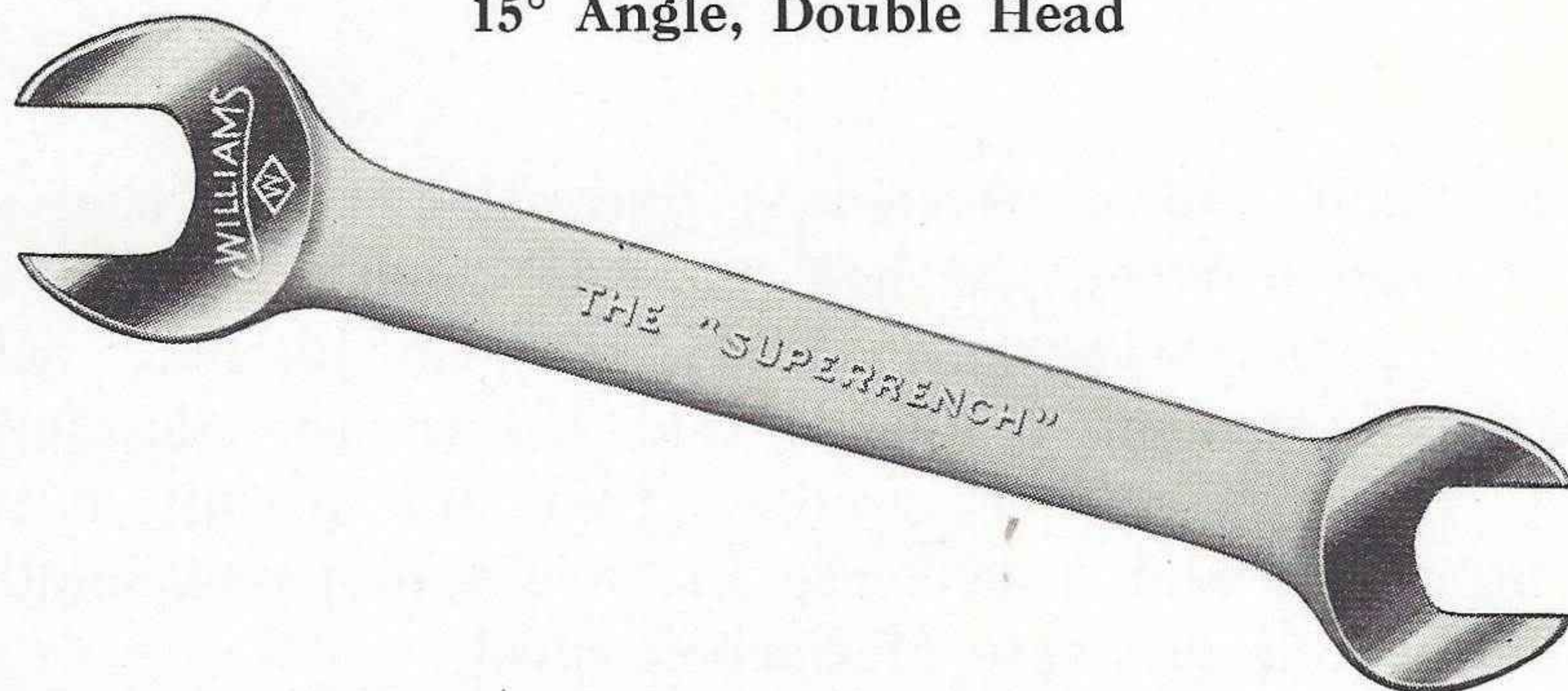
★ REGISTERED TRADE MARK

THE ★ "SUPERRENCH"

(Chrome-Molybdenum)

ENGINEERS' PATTERN

15° Angle, Double Head



Engineers' Pattern "SUPERRENCHES" are particularly serviceable in close, cramped quarters where clearance is limited. Their heads are thinner and their pointed jaws narrower than carbon steel wrenches with the same openings. Their generous length is ample for the hardest service.

Drop-forged from Chrome-Molybdenum steel and offered in 2 styles:—

Unfinished for industrial use—gray enameled all over; heads not bright.

Finished—chrome-plated; heads buffed bright.

For Whitworth Standard and Metric Measure, see page 162.

Every "SUPERRENCH" is Fully Guaranteed

No.	For U. S. Std. Nuts; Size Bolts	Hex Head Cap Screws; Diameter Screws	S.A.E. Std. Nuts; Size Bolts	Amer. Std. Regular Nuts; Size Bolts	Nominal Openings	Ex- treme Lgth.	PRICE		No.
							Un- fin- ished	Fin- ished	
1721	1/8	1/8 & 3/16	.....	.....	5/16 & 3/8	4 1/2	\$.40	\$.58	1721
1021	1/8 & 3/16	1/8	.....	.....	5/16 & 13/32	4 1/2	.40	.58	1021
1722	1/8	1/8 & 1/4	1/4	1/4	5/16 & 7/16	4 7/8	.40	.58	1722
1723	.....	3/16 & 1/4	1/4	1/4	3/8 & 7/16	4 7/8	.40	.58	1723
1022	1/8 & 1/4	1/8 & 5/16	5/16	.....	5/16 & 1/2	5 1/4	.50	.69	1022
1023	3/16 & 1/4	5/16	5/16	.....	13/32 & 1/2	5 1/4	.50	.69	1023
1723A	1/4	3/16 & 5/16	5/16	.....	3/8 & 1/2	5 1/4	.50	.69	1723A
1024	3/16 & 5/16	.....	.....	.....	13/32 & 19/32	5 5/8	.61	.82	1024
1725	1/4	1/4 & 5/16	1/4 & 5/16	1/4	7/16 & 1/2	5 5/8	.61	.82	1725
1725A	.....	1/4 & 3/8	1/4 & 3/8	1/4 & 5/16	7/16 & 9/16	5 5/8	.61	.82	1725A
1025A	.....	1/4 & 7/16	1/4 & 7/16	1/4 & 3/8	7/16 & 5/8	6 1/8	.61	.82	1025A
1725B	1/4	5/16 & 3/8	5/16 & 3/8	5/16	1/2 & 9/16	6 1/8	.61	.82	1725B
1025	1/4 & 5/16	5/16	5/16	.....	1/2 & 19/32	6 1/8	.61	.82	1025
1726	1/4	5/16 & 7/16	5/16 & 7/16	3/8	1/2 & 5/8	6 5/8	.74	1.00	1726
1026	1/4 & 3/8	5/16	5/16	.....	1/2 & 11/16	6 5/8	.74	1.00	1026
1727	.....	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	9/16 & 5/8	6 5/8	.74	1.00	1727
1027	5/16 & 3/8	.....	.....	.....	19/32 & 11/16	7 1/4	.74	1.00	1027
1027C	3/8	3/8	3/8	5/16	9/16 & 11/16	7 1/4	.74	1.00	1027C
1728	.....	3/8 & 1/2	3/8 & 1/2	5/16 & 7/16	9/16 & 3/4	7 7/8	.94	1.24	1728
1028	5/16 & 7/16	.....	.....	.....	19/32 & 25/32	7 7/8	.94	1.24	1028
1028S	7/16	7/16	7/16	3/8	5/8 & 25/32	7 7/8	.94	1.24	1028S
1729	.....	7/16 & 1/2	7/16 & 1/2	3/8 & 7/16	5/8 & 3/4	7 7/8	.94	1.24	1729
1029	3/8 & 7/16	.....	.....	.....	11/16 & 25/32	8 1/2	.94	1.24	1029
1730	.....	7/16 & 9/16	7/16	3/8 & 1/2	5/8 & 13/16	8 1/2	.94	1.24	1730
1030	3/8 & 1/2	5/8	9/16	9/16	11/16 & 7/8	8 1/2	.94	1.24	1030

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

(Continued on following page)

THE

★

“SUPERRENCH”

(Chrome-Molybdenum)

ENGINEERS’ PATTERN—15° Angle, Double Head

(Continued)

Every “SUPERRENCH” is Fully Guaranteed

No.	For U. S. Std. Nuts; Size Bolts	Hex Head Cap Screws; Diameter Screws	S.A.E. Std. Nuts; Size Bolts	Amer.Std. Regular Nuts; Size Bolts	Nominal Openings	Ex- treme Lgth.	PRICE		No.
							Un- fin- ished	Fin- ished	
1731	.....	1/2 & 9/16	1/2	7/16 & 1/2	3/4 & 13/16	9 1/4	\$1.25	\$ 1.65	1731
1731A	..... 1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16	3/4 & 7/8	9 1/4	1.25	1.65	1731A
1031	7/16 & 1/2	5/8	9/16	9/16	25/32 & 7/8	9 1/4	1.25	1.65	1031
1731B	..... 1/2	9/16 & 5/8	9/16	1/2 & 9/16	13/16 & 7/8	9 1/4	1.25	1.65	1731B
1032	7/16 & 9/16	.....	.....	.....	25/32 & 31/32	10	1.25	1.65	1032
1732A	.....	1/2 & 3/4	1/2	7/16 & 5/8	3/4 & 1	10	1.25	1.65	1732A
1732	.....	9/16 & 3/4	.....	1/2 & 5/8	13/16 & 1	10	1.25	1.65	1732
1033A	1/2	5/8	9/16 & 5/8	9/16	7/8 & 15/16	10	1.25	1.65	1033A
1033	1/2 & 9/16	5/8	9/16	9/16	7/8 & 31/32	10	1.25	1.65	1033
1733	1/2	5/8 & 3/4	9/16	9/16 & 5/8	7/8 & 1	10 7/8	1.70	2.25	1733
1033C	.....	3/4	5/8	5/8	15/16 & 1	10 7/8	1.70	2.25	1033C
1034	1/2 & 5/8	5/8	9/16 & 3/4	9/16	7/8 & 1 1/16	11 3/4	1.70	2.25	1034
1034A	..... 5/8	.....	5/8 & 3/4	.....	15/16 & 1 1/16	11 3/4	1.70	2.25	1034A
1734	1/2	5/8 & 7/8	9/16	9/16 & 3/4	7/8 & 1 1/8	11 3/4	1.70	2.25	1734
1035	9/16 & 5/8	.....	3/4	.....	31/32 & 1 1/16	11 3/4	1.70	2.25	1035
1735	.....	3/4 & 7/8	.....	5/8 & 3/4	1 & 1 1/8	12 3/4	2.45	3.15	1735
1036	9/16 & 3/4	.....	7/8	.....	31/32 & 1 1/4	12 3/4	2.45	3.15	1036
1736	..... 3/4	3/4	7/8	5/8	1 & 1 1/4	12 3/4	2.45	3.15	1736
1736A	.....	3/4 & 1	.....	5/8 & 7/8	1 & 1 5/16	12 3/4	2.45	3.15	1736A
1037	5/8 & 3/4	.....	3/4 & 7/8	.....	1 1/16 & 1 1/4	12 3/4	2.45	3.15	1037
1737	..... 3/4	7/8	7/8	3/4	1 1/8 & 1 1/4	12 3/4	2.45	3.15	1737
1037A	.....	7/8 & 1	.....	3/4 & 7/8	1 1/8 & 1 5/16	12 3/4	2.45	3.15	1037A
1038	5/8 & 7/8	.....	3/4 & 1	.....	1 1/16 & 1 7/16	14	3.85	4.90	1038
1738	.....	7/8	.....	3/4	1 1/8 & 1 3/8	14	3.85	4.90	1738
1739	3/4	.....	7/8	.....	1 1/4 & 1 3/8	14	3.85	4.90	1739
1039	3/4 & 7/8	.....	7/8 & 1	.....	1 1/4 & 1 7/16	14	3.85	4.90	1039
1739A	3/4	1 1/8	7/8	1	1 1/4 & 1 1/2	14	3.85	4.90	1739A
1739B	.....	1 1/8	.....	1	1 3/8 & 1 1/2	14	3.85	4.90	1739B
1040	3/4 & 1	.....	7/8 & 1 1/8	.....	1 1/4 & 1 5/8	14	3.85	4.90	1040
1041	7/8 & 1	.....	1 & 1 1/8	.....	1 7/16 & 1 5/8	15 3/4	6.95	8.80	1041

“SUPERRENCH” SERVICE SET No. 1025

FOR HEAVY DUTY

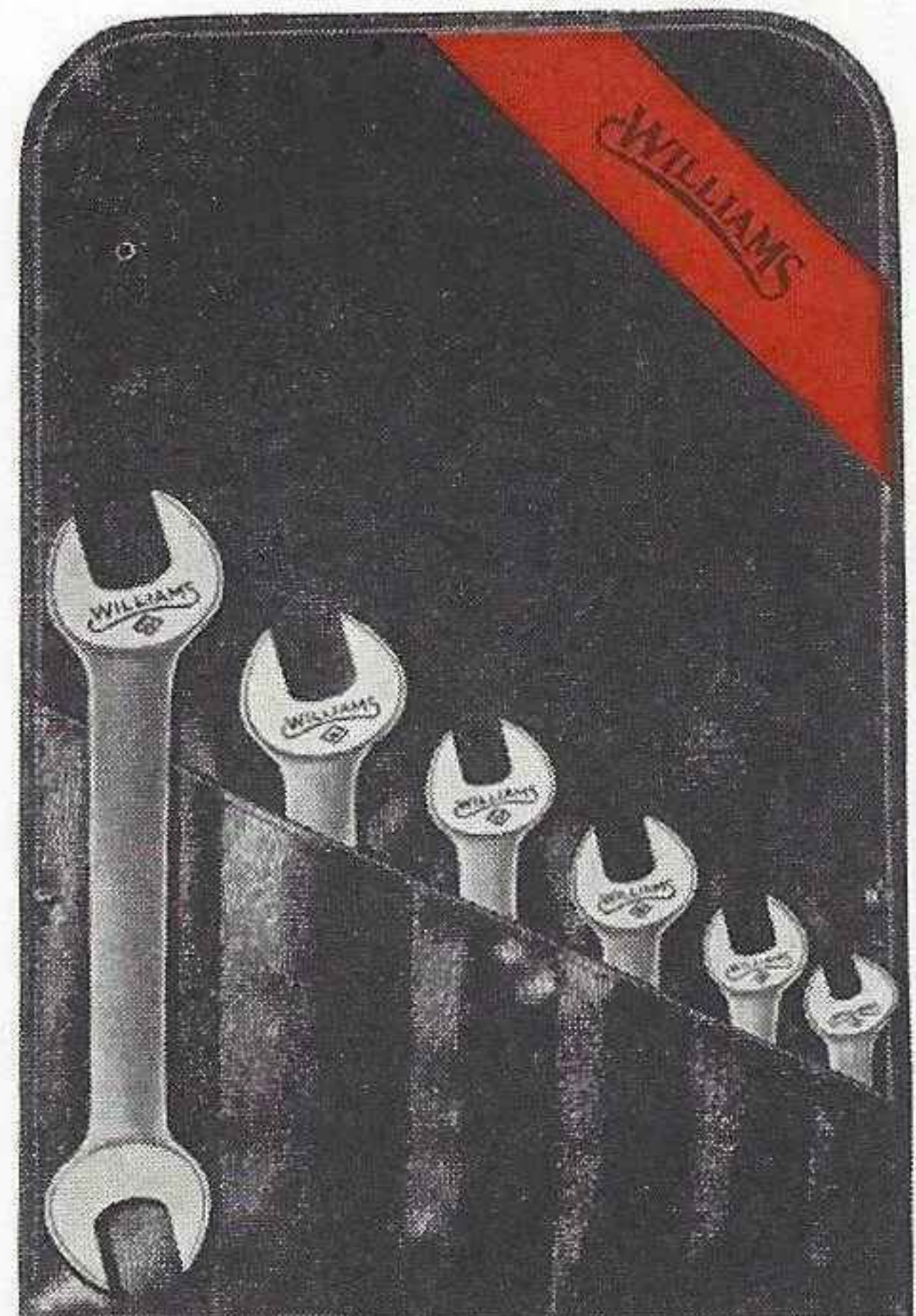
LIST PRICE, Chrome-Finished:

In Leatherette Roll..\$8.65

In Cardboard Box.....\$7.55

An efficient, handy assortment for general work. Set includes 6 “Superrenches”—1 each, Nos. 1723, 1025, 1027C, 1028S, 1731A and 1033C as described in table. Twelve different openings, 3/8 to 1”, for all U. S. Std. nuts 1/4 to 1/2”; hex cap screws 3/16 to 3/4”; S. A. E. Std. nuts 1/4 to 5/8”; Amer. Std. Regular Nuts 1/4 to 5/8”.

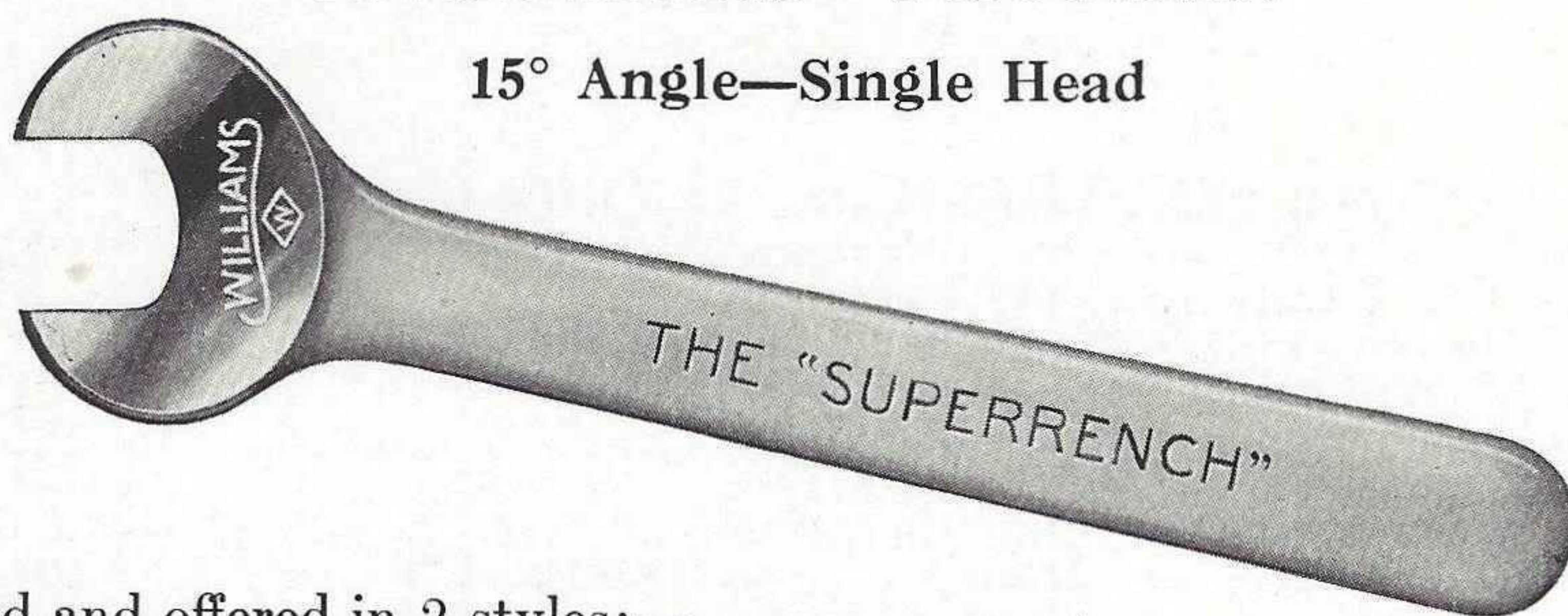
★ REGISTERED TRADE MARK



THE ♦ "SUPERRENCH"
 (Chrome-Molybdenum)

ENGINEERS' PATTERN

15° Angle—Single Head

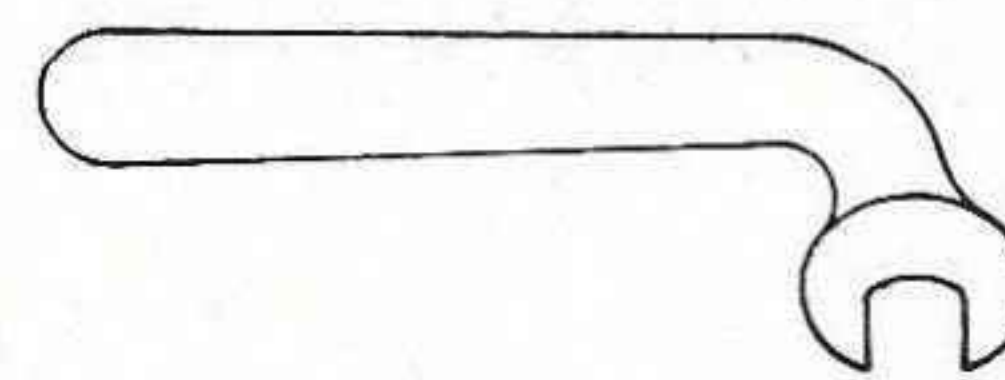


Heat-treated and offered in 2 styles:—

Finished—chrome-plated; heads buffed bright.

Unfinished for industrial use—gray enameled all over; heads not bright.

Handle can be offset above head at angles of 45° to 90° from opening, at an additional charge; see illustration at right.



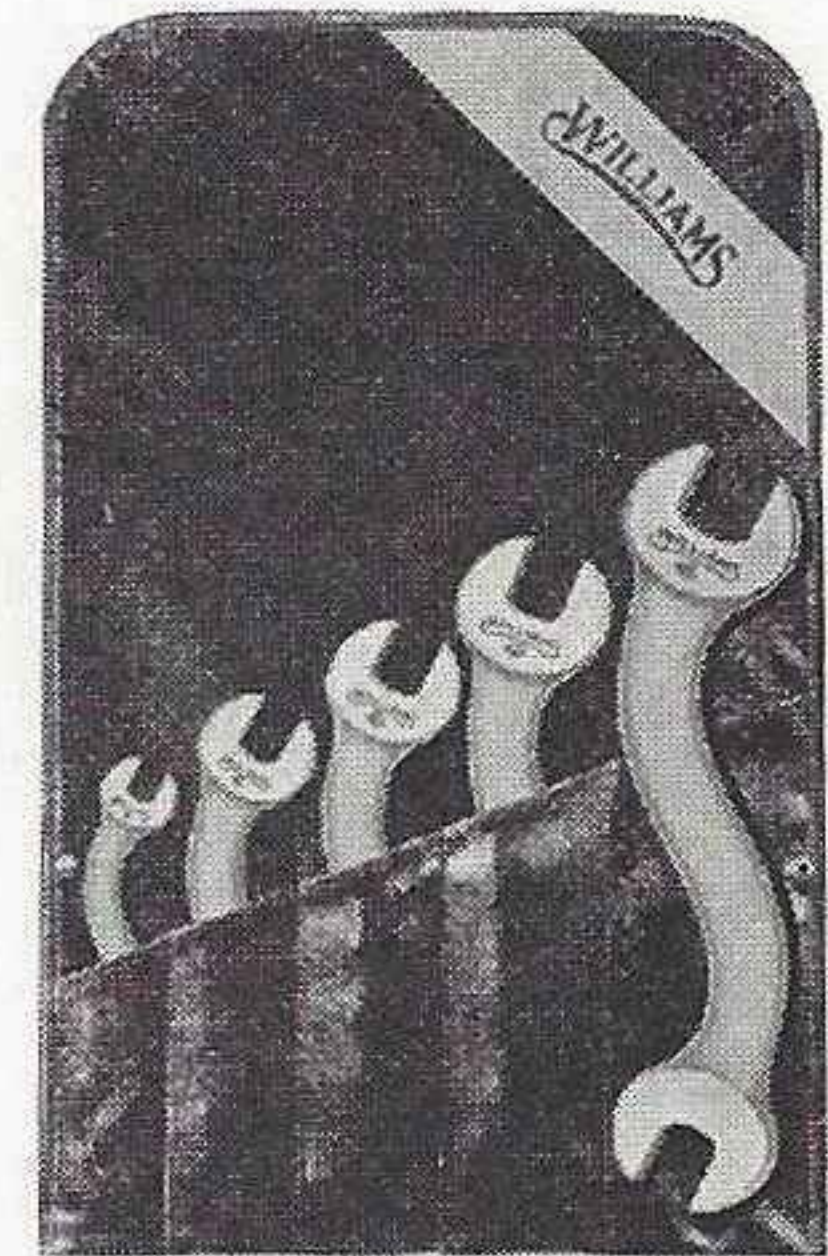
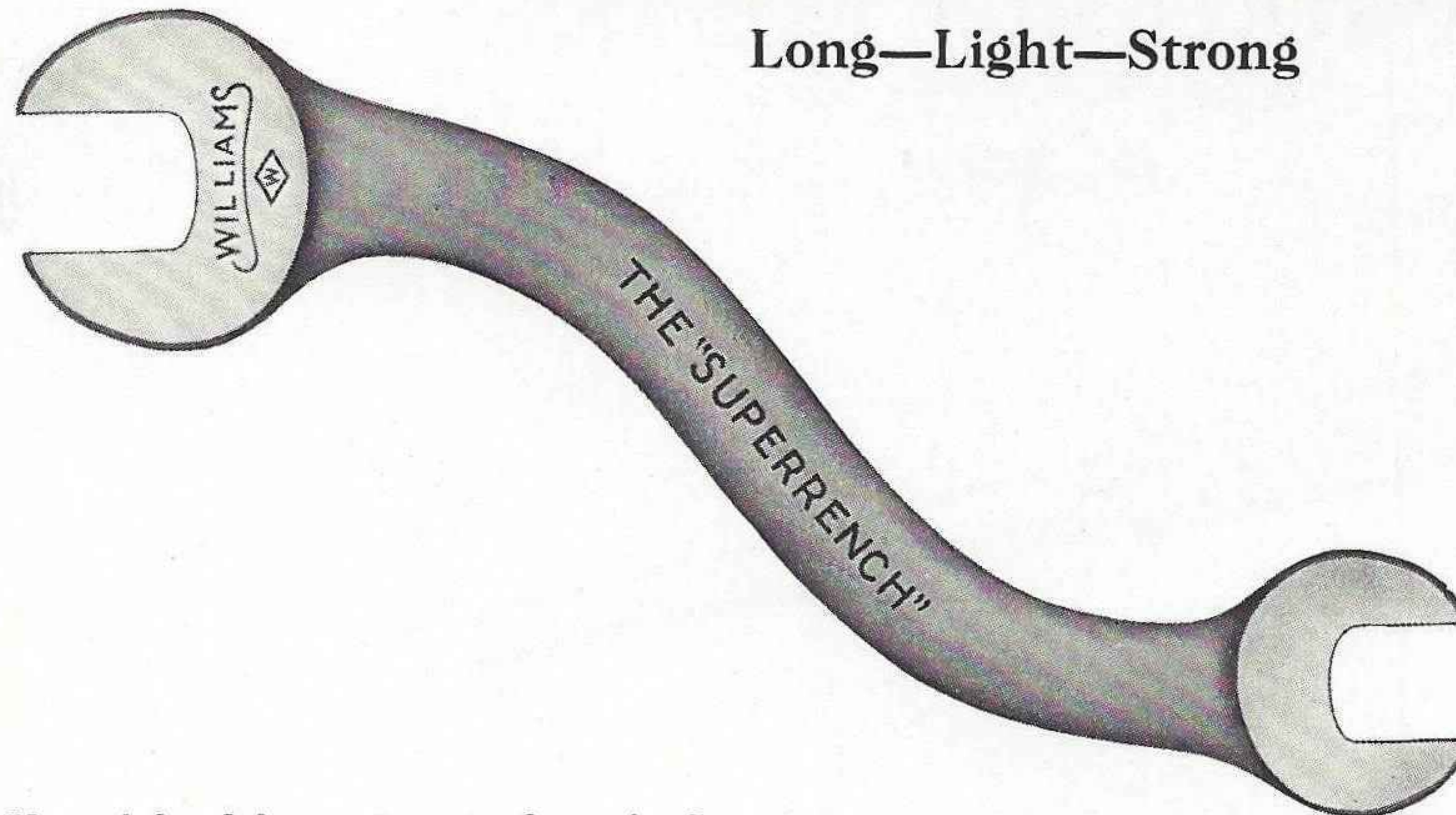
Every "SUPERRENCH" is Fully Guaranteed

No.	U. S. Std. Nut	Hex. Head Cap Screw	S. A. E. Std. Nut	Amer. Std. Regular Nut	Nomi- nal Opening	Extreme Length, Approx.	Thick- ness Head	PRICE		No.
								Unfin- ished	Fin- ished	
1000	1/8	1/8	.....	.....	5/16	3 1/2	7/32	\$.33	\$.47	1000
1700	.....	3/16	.....	.....	3/8	4	1/4	.33	.47	1700
1000A	3/16	.....	.....	.....	13/32	4	1/4	.33	.47	1000A
1701	.....	1/4	1/4	1/4	7/16	4 5/8	9/32	.39	.56	1701
1001	1/4	5/16	5/16	.....	1/2	4 5/8	9/32	.39	.56	1001
1702	.....	3/8	3/8	5/16	9/16	5 1/2	5/16	.50	.70	1702
1002	5/16	.....	.....	.....	19/32	5 1/2	5/16	.50	.70	1002
1703	.....	7/16	7/16	3/8	5/8	6 3/8	11/32	.62	.85	1703
1003	3/8	.....	.....	.....	11/16	6 3/8	11/32	.62	.85	1003
1704	.....	1/2	1/2	7/16	3/4	7 1/4	3/8	.78	1.05	1704
1004	7/16	.....	.....	.....	25/32	7 1/4	3/8	.78	1.05	1004
1705	.....	9/16	.....	1/2	13/16	8 1/8	7/16	.96	1.25	1705
1005	1/2	5/8	9/16	9/16	7/8	8 1/8	7/16	.96	1.25	1005
1006A	.....	.....	5/8	.....	15/16	9 1/4	1/2	1.16	1.50	1006A
1006	9/16	.....	.....	.....	31/32	9 1/4	1/2	1.16	1.50	1006
1706	.....	3/4	.....	5/8	1	9 1/4	1/2	1.16	1.50	1706
1007	5/8	.....	3/4	.....	1 1/16	10 1/2	9/16	1.47	1.88	1007
1707	.....	7/8	.....	3/4	1 1/8	10 1/2	9/16	1.47	1.88	1707
1008	3/4	.....	7/8	.....	1 1/4	12	21/32	2.00	2.50	1008
1008A	.....	1	.....	7/8	1 5/16	12	21/32	2.00	2.50	1008A
1009	7/8	.....	1	.....	1 7/16	13 1/2	23/32	3.05	3.80	1009
1709	.....	1 1/8	.....	1	1 1/2	13 1/2	23/32	3.05	3.80	1709
1010	1	.....	1 1/8	.....	1 5/8	15	25/32	4.30	5.30	1010
1010A	.....	1 1/4	.....	1 1/8	1 11/16	15	25/32	4.30	5.30	1010A
1011	1 1/8	.....	1 1/4	.....	1 13/16	16 1/2	7/8	5.65	6.90	1011
1011A	.....	.....	.....	1 1/4	1 7/8	16 1/2	7/8	5.65	6.90	1011A
1012	1 1/4	.....	1 3/8	.....	2	18 1/4	15/16	7.90	9.40	1012
1012A	.....	.....	.....	1 3/8	2 1/16	18 1/4	15/16	7.90	9.40	1012A
1013	1 3/8	.....	1 1/2	.....	2 3/16	20	1	10.35	12.15	1013
1013A	.....	.....	.....	1 1/2	2 1/4	20	1	10.35	12.15	1013A
1014	1 1/2	.....	.....	.....	2 3/8	22	1 1/16	13.00	15.30	1014
1014A	.....	.....	.....	1 5/8	2 7/16	22	1 1/16	13.00	15.30	1014A

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

THE "SUPERRENCH"
(Chrome - Molybdenum)
GENERAL SERVICE PATTERN
 Long—Light—Strong



SET No. 1002-S

Furnished heat-treated and chrome-finished; heads buffed bright.

Whitworth Standard, see page 162.

Weights, pages 163 to 170.

LIST PRICE, \$11.00

In Leatherette Roll

5 Wrenches—

Marked * in table

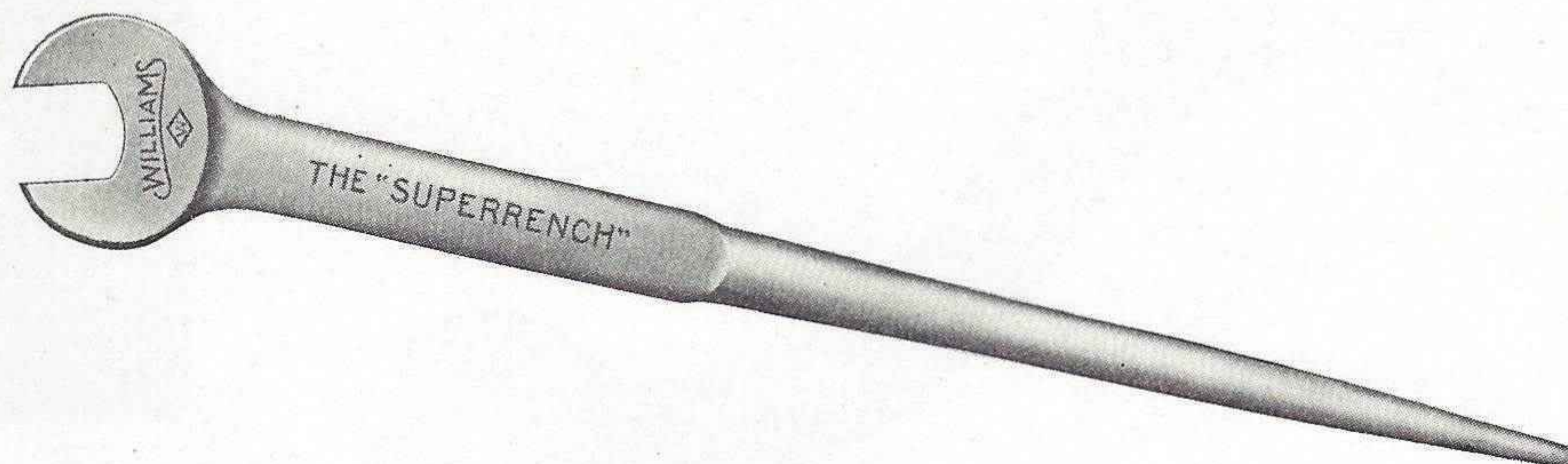
Every "SUPERRENCH" is Fully Guaranteed

No.	For U. S. Std. Nuts; Size Bolts	For Hex. Head Cap Screws; Diameter Screws	For S.A.E. Std. Nuts; Size Bolts	For Amer. Std. Nuts; Regular and Jam	Nominal Openings	Ex- treme Length, Approx.	PRICE, Chrome- Finished	No.
1075B	.....	3/16 & 1/4	1/4	1/4	3/8 & 7/16	6 1/4	\$.93	1075B
1075A	1/4	3/16 & 5/16	5/16	.....	3/8 & 1/2	6 1/4	.93	1075A
1075	3/16 & 1/4	5/16	5/16	.....	13/32 & 1/2	6 1/4	.93	1075
*1077S	1/4	1/4 & 5/16	1/4 & 5/16	1/4	7/16 & 1/2	7 1/4	1.18	1077S
1077C	.....	1/4 & 3/8	1/4 & 3/8	1/4 & 5/16	7/16 & 9/16	7 1/4	1.18	1077C
1077E	.....	1/4 & 7/16	1/4 & 7/16	1/4 & 3/8	7/16 & 5/8	7 1/4	1.18	1077E
1077B	1/4	5/16 & 3/8	5/16 & 3/8	5/16	1/2 & 9/16	7 1/4	1.18	1077B
1077	1/4	5/16 & 7/16	5/16 & 7/16	3/8	1/2 & 5/8	7 1/4	1.18	1077
1079B	5/16	3/8	3/8	5/16	9/16 & 19/32	8 1/4	1.45	1079B
*1079S	.....	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	9/16 & 5/8	8 1/4	1.45	1079S
1079A	3/8	3/8	3/8	5/16	9/16 & 11/16	8 1/4	1.45	1079A
1079E	.....	3/8 & 1/2	3/8 & 1/2	5/16 & 7/16	9/16 & 3/4	8 1/4	1.45	1079E
1079	3/8	7/16	7/16	3/8	5/8 & 11/16	8 1/4	1.45	1079
1079C	.....	7/16 & 1/2	7/16 & 1/2	3/8 & 7/16	5/8 & 3/4	8 1/4	1.45	1079C
1081H	.....	7/16 & 9/16	7/16	3/8 & 1/2	5/8 & 13/16	9 1/4	1.75	1081H
1081	3/8	.....	.....	.....	11/16 & 27/32	9 1/4	1.75	1081
1081B	.....	1/2 & 9/16	1/2	7/16 & 1/2	3/4 & 13/16	9 1/4	1.75	1081B
*1081A	1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16	3/4 & 7/8	9 1/4	1.75	1081A
1083K	1/2	9/16 & 5/8	9/16	1/2 & 9/16	13/16 & 7/8	10 3/8	2.30	1083K
1083J	.....	9/16 & 3/4	.....	1/2 & 5/8	13/16 & 1	10 3/8	2.30	1083J
1083	.....	.....	5/8	.....	27/32 & 15/16	10 3/8	2.30	1083
1083B	1/2	5/8 & 3/4	9/16	9/16 & 5/8	7/8 & 1	10 3/8	2.30	1083B
*1083A	.....	3/4	5/8 & 11/16	5/8	15/16 & 1	10 3/8	2.30	1083A
1085H	1/2	5/8 & 7/8	9/16	9/16 & 3/4	7/8 & 1 1/8	12	3.30	1085H
1085	.....	3/4 & 7/8	.....	5/8 & 3/4	1 & 1 1/8	12	3.30	1085
1085J	.....	3/4 & 1	.....	5/8 & 7/8	1 & 1 5/16	12	3.30	1085J
*1085C	5/8 & 3/4	.....	3/4 & 7/8	.....	1 1/16 & 1 1/4	12	3.30	1085C
1085B	3/4	7/8	7/8	3/4	1 1/8 & 1 1/4	12	3.30	1085B
1085K	.....	7/8 & 1	.....	3/4 & 7/8	1 1/8 & 1 5/16	12	3.30	1085K

★ REGISTERED TRADE MARK

THE ♦ "SUPERRENCH"
(Chrome-Molybdenum)
CONSTRUCTION PATTERN

15° Angle



These Wrenches have been made especially to meet the needs of structural workers. Their slim design provides ample strength and leverage without unnecessary weight and bulk.

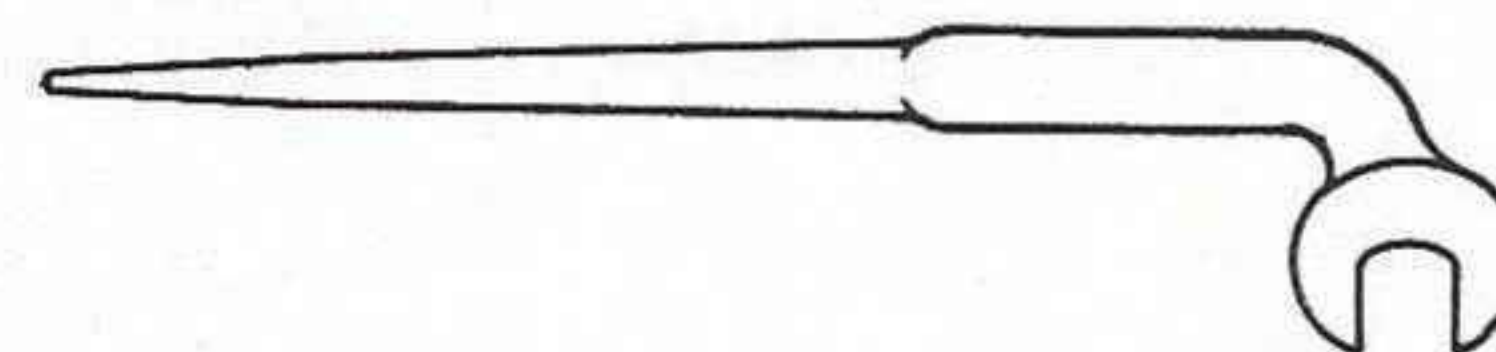
The jaws are narrow and long, providing substantial bearing on square nuts.

The long handle is round for the greater part of its length, with tapered end for easy insertion into bolt holes when bringing them into line.

Furnished heat-treated and Cadmium-plated.

For Whitworth Standard, see page 162.

Handle can be offset above head at angles of 45° to 90° from opening, at an additional charge; see cut at right.



Every "SUPERRENCH" is Fully Guaranteed

No.	For U. S. Std. Nut; Size Bolt	For American Standard Regular Nut; Size Bolt	Nominal Opening	Extreme Length, Approx.	Thickness Head	PRICE, Cadmium Finished	No.
1203A	.....	3/8	5/8	12	7/16	\$ 1.43	1203A
1203	3/8	.....	11/16	12	7/16	1.43	1203
1205A	.....	1/2	13/16	14 1/2	17/32	1.86	1205A
1205	1/2	9/16	7/8	14 1/2	17/32	1.86	1205
1206B	.....	5/8	1	14 1/2	17/32	1.86	1206B
1207	5/8	.....	1 1/16	17	5/8	2.60	1207
1207A	.....	3/4	1 1/8	17	5/8	2.60	1207A
1208	3/4	.....	1 1/4	19	11/16	3.50	1208
1208A	.....	7/8	1 5/16	19	11/16	3.50	1208A
1209	7/8	.....	1 7/16	21	3/4	4.80	1209
1209A	.....	1	1 1/2	21	3/4	4.80	1209A
1210	1	.....	1 5/8	23	27/32	6.80	1210
1211	1 1/8	1 1/4	1 13/16	25	15/16	10.00	1211
1212	1 1/4	1 3/8	2	25	15/16	10.00	1212

Weights given pages 163 to 170.

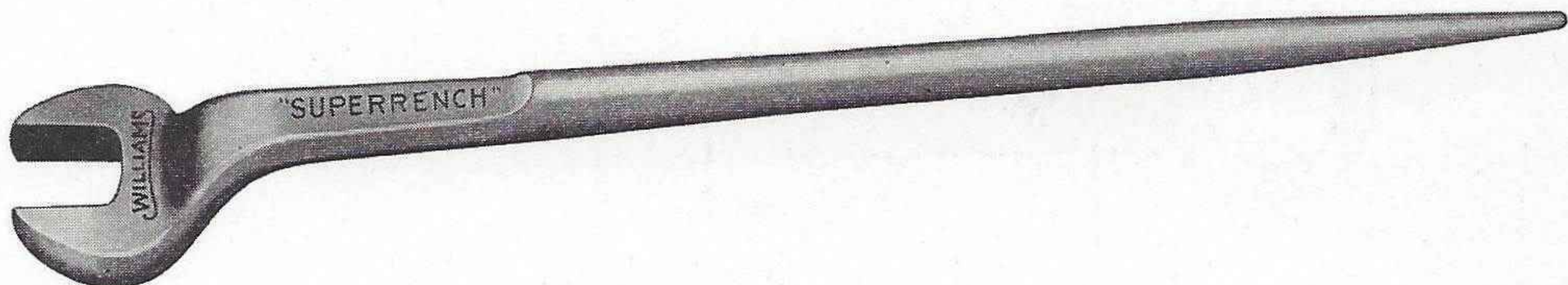
♦ REGISTERED TRADE MARK

THE ♦ “SUPERRENCH”

(Chrome - Molybdenum)

STRUCTURAL PATTERN

Straight Opening



These Wrenches have been made especially to meet the needs of structural workers. Their slim design provides ample strength and leverage without unnecessary weight and bulk.

The jaws are narrow and long, providing substantially full bearing on square nuts. The long handle is round for the greater part of its length, with tapered end for easy insertion into bolt holes when bringing them into line.

The abrupt offset and angle of handle provide for clearance of obstructions, even when these are close to the head-end, and safety to the operator's hands. The wrench is particularly well balanced. When thrust into slit of scabbard or belt-loop, the "step-up" of the round above the flat part of handle acts as a stop. It retains the wrench, yet provides for ready release.

Furnished heat-treated and Cadmium-plated.

For Whitworth Standard, see page 162.

Every “SUPERRENCH” is Fully Guaranteed

No.	For U. S. Std. Nut; Size Bolt	For American Standard Regular Nut; Size Bolt	Nominal Opening	Extreme Length, Approx.	Thick- ness Head	Handle Offset		PRICE, Cad- mium Finished	No.
						At Head	At End		
1903A	.....	3/8	5/8	12	7/16	3/4	1 11/16	\$1.68	1903A
1903	3/8	.....	*11/16	12	7/16	3/4	1 11/16	1.68	1903
1905A	.....	1/2	13/16	14 1/2	17/32	7/8	1 7/8	2.25	1905A
1905	1/2	9/16	* 7/8	14 1/2	17/32	7/8	1 7/8	2.25	1905
1906	9/16	.....	*31/32	14 1/2	17/32	7/8	1 7/8	2.25	1906
1907	5/8	5/8	1						
1907A	.....	3/4	*1 1/16	17	5/8	1	2 3/8	3.15	1907
1908	3/4	.....	1 1/8	17	5/8	1	2 3/8	3.15	1907A
1908A	.....	7/8	*1 1/4	19	11/16	1 1/8	2 3/4	4.25	1908
1909	7/8	.....	1 5/16	19	11/16	1 1/8	2 3/4	4.25	1908A
1910	.....	1	*1 7/16	21	3/4	1 1/4	3 1/16	5.85	1909
	1	.....	1 1/2						
1911	.....	1 1/8	*1 5/8	23	13/16	1 7/16	3 3/8	8.10	1910
	1 1/8	.....	1 11/16						
1912	1 1/4	.....	*1 13/16	25	7/8	1 5/8	3 11/16	12.25	1911
	.....	1 1/4	1 7/8	25	7/8	1 5/8	3 11/16	12.25	1912
	1 1/4	.....	*2						

* Based on U. S. S. Nut formula. Actual openings are 1/32 to 1/16" larger for proper clearance on rough nuts and bolts.

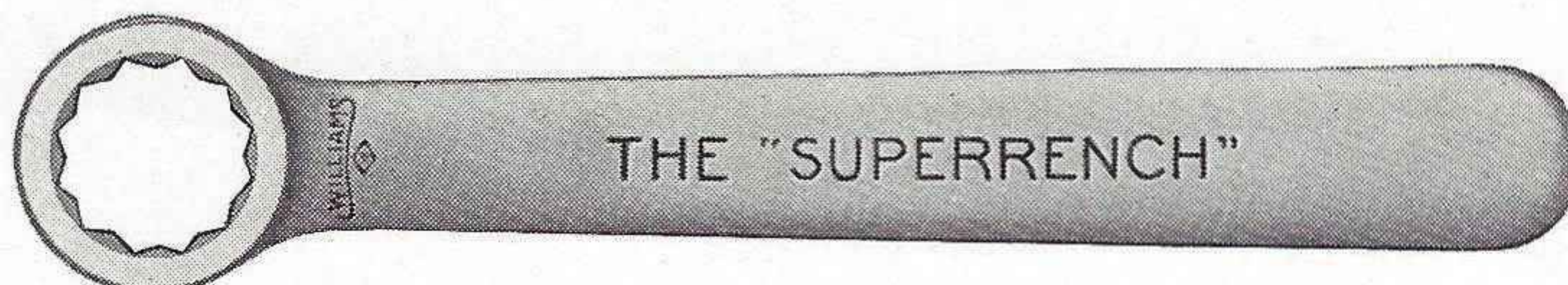
Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

THE ★ "SUPERRENCH" (Chrome-Molybdenum)

HEX-BOX REGULAR PATTERN—7 1/2° ANGLE

For Close Quarters



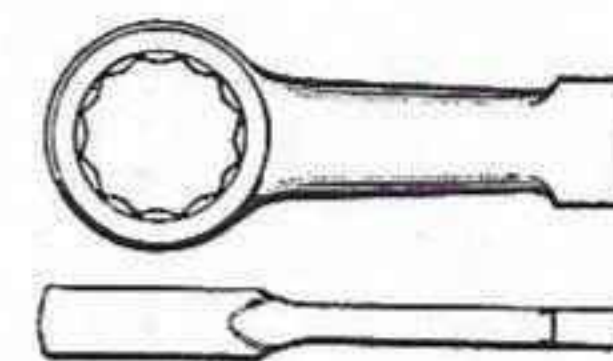
These "Superrenches", with thin head walls, are particularly efficient in close quarters. Their 12-point openings grip hex nuts on all sides, preventing slipping and rounding of the nut's corners. Rotate hex nuts where the swing of the wrench is limited to only 15°—*half* the space required by the conventional wrench.

Drop-forged from Chrome-Molybdenum steel, heat-treated and offered in 2 styles:—

Unfinished for industrial use—gray enameled all over; heads not bright.

Finished—Chrome-plated; faces of heads buffed bright. Supplied until stock is exhausted; thereafter to order.

† At extra charge, No. 1815A is also furnished with "striking-face" on end of handle, as illustrated at right; length 14 inches.



No.	U. S. Std. Nut	Hex Cap Screw	S.A.E. Std. Nut	Amer. Std. Regular Nut	Open- ing Across Flats	Ex- treme Length, Apprx.	Head		PRICE		No.
							Thick- ness	Outside Diam.	Unfin- ished	Chrome Fin- ished	
1800A	.....	1/4	1/4	1/4	7/16	3 1/2	3/16	3/4	\$.44	\$.58	1800A
1801	1/4	5/16	5/16	.....	1/2	4	1/4	29/32	.52	.69	1801
1802A	.....	3/8	3/8	5/16	9/16	4 7/8	9/32	31/32	.62	.82	1802A
1802	5/16	.....	.....	.....	19/32	4 7/8	9/32	1 1/16	.62	.82	1802
1803A	.....	7/16	7/16	3/8	5/8	5 7/8	5/16	1 1/16	.72	.95	1803A
1803	3/8	.....	.....	.....	11/16	5 7/8	5/16	1 1/4	.72	.95	1803
1804A	.....	1/2	1/2	7/16	3/4	6 7/8	11/32	1 1/4	.86	1.10	1804A
1804	7/16	.....	.....	.....	25/32	6 7/8	11/32	1 3/8	.86	1.10	1804
1805A	.....	9/16	.....	1/2	13/16	7 3/4	25/64	1 3/8	1.05	1.30	1805A
1805	1/2	5/8	9/16	9/16	7/8	7 3/4	25/64	1 1/2	1.05	1.30	1805
1806A	.....	.....	5/8	.....	15/16	8 3/4	7/16	1 9/16	1.30	1.60	1806A
1806	9/16	.....	.....	.....	31/32	8 3/4	7/16	1 11/16	1.30	1.60	1806
1806B	.....	3/4	.....	5/8	1	8 3/4	7/16	1 11/16	1.30	1.60	1806B
1807	5/8	.....	3/4	.....	1 1/16	9 7/8	31/64	1 13/16	1.60	1.95	1807
1807A	.....	7/8	.....	3/4	1 1/8	9 7/8	31/64	1 13/16	1.60	1.95	1807A
*1808	3/4	.....	7/8	.....	1 1/4	11 1/2	9/16	2 1/16	2.05	2.45	*1808
*1808A	.....	1	.....	7/8	1 5/16	11 1/2	9/16	2 1/16	2.05	2.45	*1808A
*1809A	.....	1 1/8	.....	1	1 1/2	13 3/8	21/32	2 3/8	2.75	3.30	*1809A
*1811	1 1/8	.....	1 1/4	.....	1 13/16	17	13/16	2 7/8	4.95	5.85	*1811
*1811A	.....	.....	.....	1 1/4	1 7/8	17	13/16	2 7/8	4.95	5.85	*1811A
*1813	1 3/8	.....	1 1/2	.....	2 3/16	21	1	3 1/2	8.30	9.60	*1813
*1813A	.....	.....	.....	1 1/2	2 1/4	21	1	3 1/2	8.30	9.60	*1813A
*1814	1 1/2	.....	.....	.....	2 3/8	23	1 1/16	3 3/4	10.35	11.85	*1814
†*1815A	.....	.....	.....	1 3/4	2 5/8	25	1 1/8	4	19.00	21.00	†*1815A

* Furnished until stock is exhausted; thereafter in Heavy Pattern only.

Fully Guaranteed

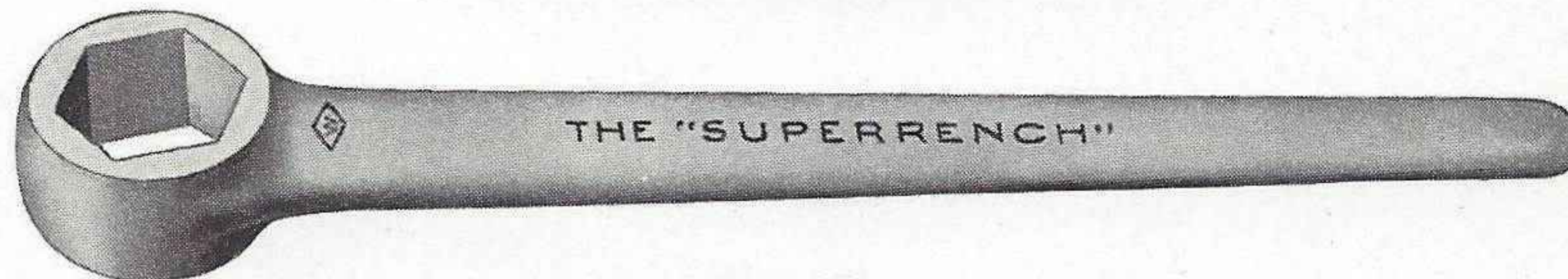
★ REGISTERED TRADE MARK

THE "SUPERRENCH"

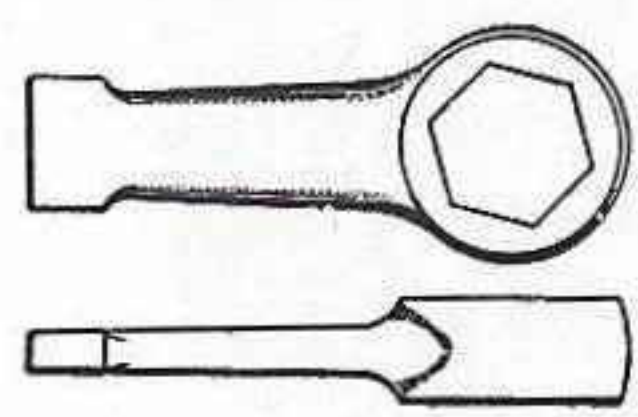
(Chrome-Molybdenum)

HEX-BOX HEAVY PATTERN—15° ANGLE

For Close Quarters



Designed for severe service. For extra strength and full bearing, the heads are approximately the same thickness as the nuts they service. Offered in 2 styles, as described on opposite page. Stocked in Unfinished only.



†At extra charge Nos. H-1815 to H-1817A are also furnished with "striking-face" on end of handle, as illustrated at left; lengths as follows:

Number,	H 1815	H 1815A	H 1816	H 1817	H 1817A
Length,	14	14	15	17	17 in.

No.	U.S. Std. Nut	Hex Cap Screw	S.A.E. Std. Nut	Amer. Std. Regular Nut	Open- ing Across Flats	Ex- tre- me Lgth, Apprx.	Head		PRICE		No.
							Thick- ness	Outside Diam.	Unfin- ished	Chrome Finished	
H1808	3/4	.....	7/8	.....	1 1/4	11 1/2	13/16	2 1/16	\$2.70	\$3.25	H1808
H1808A	.....	1	.....	7/8	1 5/16	11 1/2	13/16	2 1/16	2.70	3.25	H1808A
H1809	7/8	.....	1	.....	1 7/16	13 3/8	15/16	2 3/8	3.70	4.40	H1809
H1809A	.....	1 1/8	.....	1	1 1/2	13 3/8	15/16	2 3/8	3.70	4.40	H1809A
H1810	1	.....	1 1/8	.....	1 5/8	15 1/4	1 1/8	2 5/8	5.00	5.90	H1810
H1810A	.....	1 1/4	.....	1 1/8	1 11/16	15 1/4	1 1/8	2 5/8	5.00	5.90	H1810A
H1811	1 1/8	.....	1 1/4	.....	1 13/16	17	1 1/4	2 15/16	6.65	7.80	H1811
H1811A	.....	.....	.....	1 1/4	1 7/8	17	1 1/4	2 15/16	6.65	7.80	H1811A
H1812	1 1/4	.....	1 3/8	.....	2	19	1 3/8	3 1/4	8.65	10.10	H1812
H1813	1 3/8	.....	1 1/2	.....	2 3/16	21	1 1/2	3 1/2	11.00	12.80	H1813
H1813A	.....	.....	.....	1 1/2	2 1/4	21	1 1/2	3 1/2	11.00	12.80	H1813A
H1814	1 1/2	.....	.....	.....	2 3/8	23	1 5/8	3 3/4	13.80	16.00	H1814
†H1815	1 5/8	.....	.....	.....	2 9/16	25	1 3/4	4 1/8	23.50	26.50	†H1815
†H1815A	.....	.....	.....	1 3/4	2 5/8	25	1 3/4	4 1/8	23.50	26.50	†H1815A
†H1816	1 3/4	.....	.....	.....	2 3/4	27	1 7/8	4 9/16	34.00	38.00	†H1816
†H1817A	.....	.....	.....	2	3	30	2	4 13/16	46.00	52.00	†H1817A
†H1817	2	.....	.....	.....	3 1/8	30	2	4 13/16	46.00	52.00	†H1817

OFFSET SOCKET "SUPERRENCH"

(Chrome-Molybdenum)

Heavy design, especially well adapted to cracking-unit service in Oil Refineries. Forged from Chrome-Molybdenum steel, heat-treated, cadmium-plated.



No.	U.S. Std. Nut; Size Bolt	S.A.E. Std. Nut; Size Bolt	Nominal Opening Across Flats	Diam. of Head	Extreme Length, Approx.	Handle Offset in Clear	PRICE Each	No.
2273	5/8	3/4	1 1/16	1 3/4	11 5/8	2 3/4	\$ 4.80	2273
2274	3/4	7/8	1 1/4	2	12 3/8	2 7/8	5.40	2274
2276	7/8	1	1 7/16	2 1/4	14 7/8	3 1/2	6.50	2276
2277	1	1 1/8	1 5/8	2 1/2	16 1/2	3 7/8	7.75	2277
2278	1 1/8	1 1/4	1 13/16	2 3/4	18 1/4	4 3/8	9.25	2278
2279	1 1/4	1 3/8	2	3	20	4 7/8	11.00	2279
2280	1 3/8	1 1/2	2 3/16	3 3/16	21 3/4	5 3/8	14.00	2280
2280A	1 1/2	.....	2 3/8	3 3/8	21 3/4	5 3/8	14.00	2280A

♦ REGISTERED TRADE MARK

Fully Guaranteed

THE ♦“SUPERRENCH”

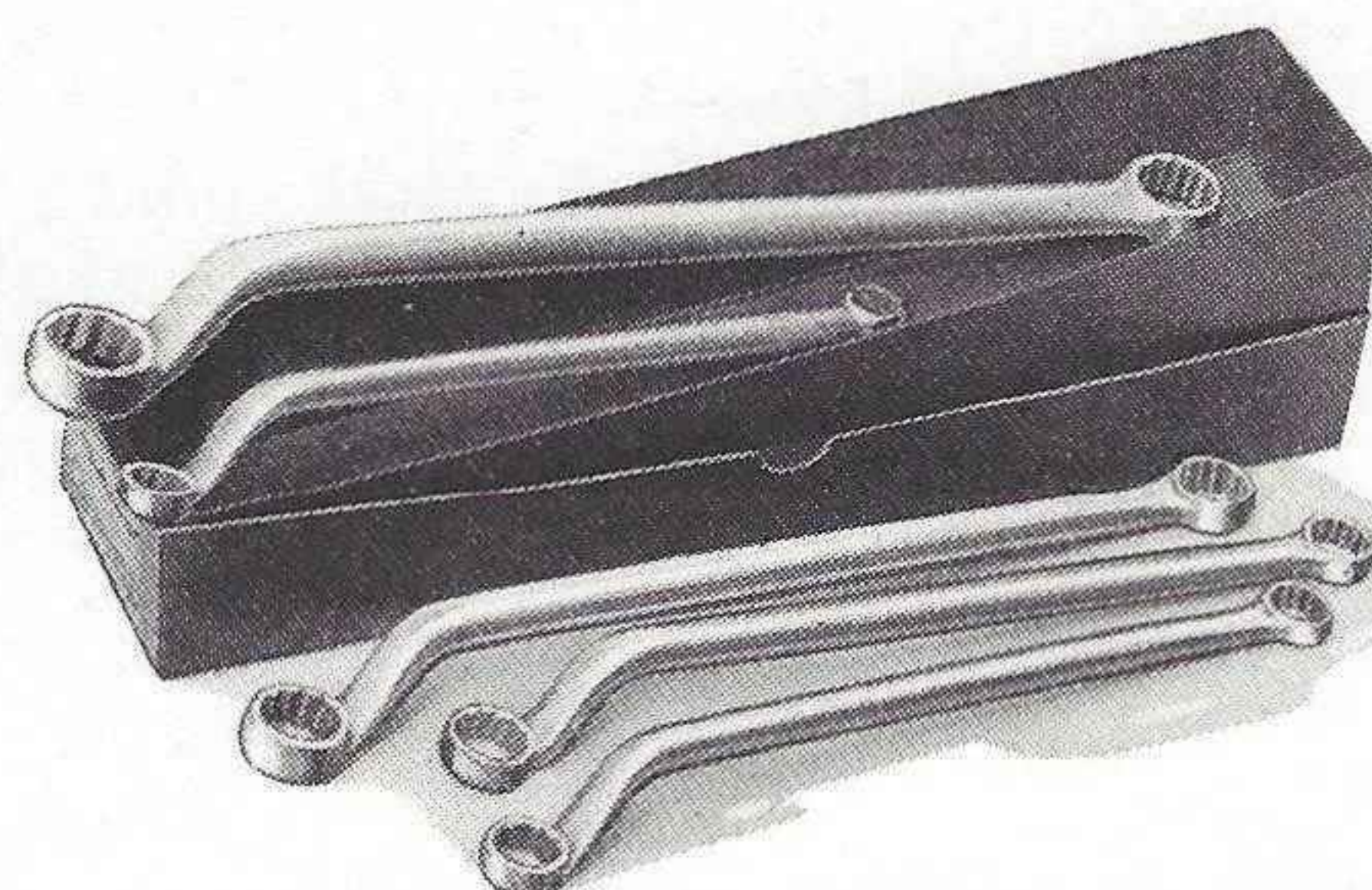
(Chrome-Molybdenum)

DUOHEX-BOX PATTERN—SINGLE OFFSET

Same Opening in Both Heads



Extra Reach
Short Swing
No Slip



SET No. 8105

LIST PRICE, Complete \$7.30

In Cardboard Box

5 “Superrenches”, listed below

DUOHEX-BOX “Superrenches” are particularly well adapted to work in close quarters. Thin head walls permit use where clearance is extremely limited. The openings grip hex nuts on six sides, preventing all slipping and rounding of the nut’s corners. Extra length provides unusual reach and leverage. Mechanics appreciate these features, as well as the unusual strength of the wrenches.

Each head has a 12-point opening. Consequently, hex nuts can be completely rotated by the offset head where the swing of the wrench is limited to 30°—less than 1/10 of a full turn. The straight head requires a swing of only 15°.

Ideal for use in awkward places and on Connecting Rods, Main Bearings, Base, Cylinder Heads and Spring Clips.

GENUINE “Superrenches”, forged from Chrome-Molybdenum steel, heat-treated and chrome-plated.

Every “SUPERRENCH” is Fully Guaranteed

No.	Nominal Openings, 12-Point	For Hex. Cap Screws; Diam. Screws	For S.A.E. Std. Nuts; Size Bolts	For Amer. Std. Regular Nuts; Size Bolts	Extreme Length, Approx.	Handle Offset at Head	PRICE Each	No.
8128	7/16 & 7/16	1/4 & 1/4	1/4 & 1/4	1/4 & 1/4	8 1/2	15/16	\$1.25	8128
8132	1/2 & 1/2	5/16 & 5/16	5/16 & 5/16	5/16 & 5/16	9	15/16	1.35	8132
8136	9/16 & 9/16	3/8 & 3/8	3/8 & 3/8	5/16 & 5/16	9 3/4	1	1.45	8136
8140	5/8 & 5/8	7/16 & 7/16	7/16 & 7/16	3/8 & 3/8	10 1/2	1 1/16	1.55	8140
8148	3/4 & 3/4	1/2 & 1/2	1/2 & 1/2	7/16 & 7/16	12	1 1/8	1.70	8148

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

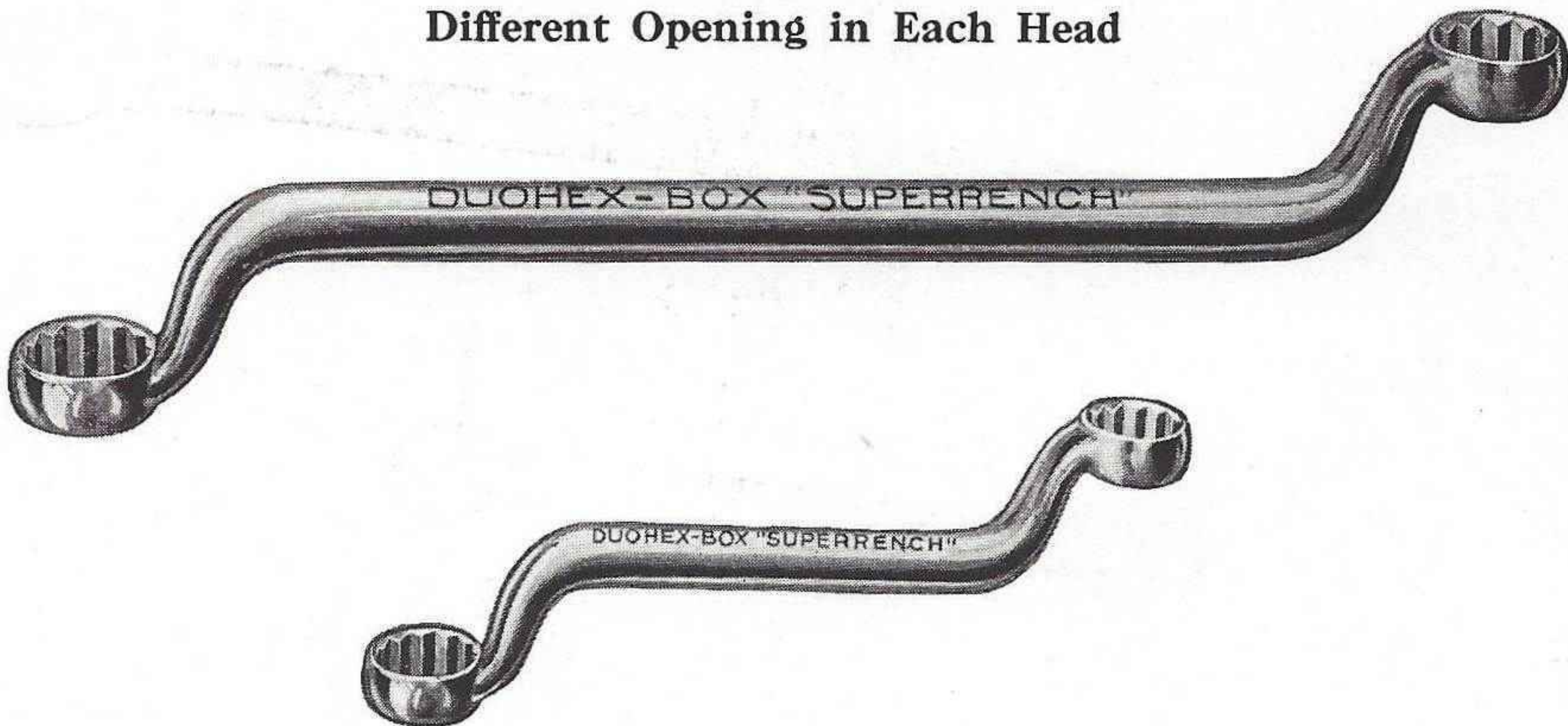
THE ★“SUPERRENCH”

(Chrome-Molybdenum)

DUOHEX-BOX PATTERN—LONG AND SHORT

WITH DOUBLE OFFSET

Different Opening in Each Head



Every “SUPERRENCH” is Fully Guaranteed

DuoHex-Box “Superrenches” with Double Offset are supplied in Long and Short lengths. Otherwise they are similar to the Single Offset Pattern described on opposite page, excepting that each head has a different size 12-point opening. Will rotate hex nuts completely where wrench can be swung only 30°. Chrome-plated.

No.	12-Point Nominal Openings	U. S. Std. Hex Nuts; Size Bolts	For Hex Cap Screws	S. A. E. Standard Hex Nuts	Amer. Std. Regular Hex Nuts	Ex- treme Length	PRICE Each	No.
LONG WRENCHES—Different Opening in Each Head								
8021	5/16 & 13/32	1/8 & 3/16	1/8	.....	.....	7 1/2	\$.75	8021
8723	3/8 & 7/16	.....	3/16 & 1/4	1/4	1/4	8 1/2	.90	8723
8023	13/32 & 1/2	3/16 & 1/4	5/16	5/16	.....	8 3/4	.90	8023
8725	7/16 & 1/2	1/4	1/4 & 5/16	1/4 & 5/16	1/4	8 3/4	.90	8725
8725B	1/2 & 9/16	1/4	5/16 & 3/8	5/16 & 3/8	5/16	9	.95	8725B
8025	1/2 & 19/32	1/4 & 5/16	5/16	5/16	.....	9	.95	8025
8727	9/16 & 5/8	.....	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	9 3/4	1.00	8727
8729	5/8 & 3/4	.....	7/16 & 1/2	7/16 & 1/2	3/8 & 7/16	11	1.15	8729
8029	11/16 & 25/32	3/8 & 7/16	.....	.....	.....	11	1.25	8029
8731A	3/4 & 7/8	1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16	12 1/2	1.30	8731A
8033	7/8 & 31/32	1/2 & 9/16	5/8	9/16	9/16	13 1/2	1.55	8033
8733	7/8 & 1	1/2	5/8 & 3/4	9/16	9/16 & 5/8	14 1/2	1.75	8733
8733C	15/16 & 1	.....	3/4	5/8 & 11/16	5/8	14 1/2	1.75	8733C
8034	7/8 & 1 1/16	1/2 & 5/8	5/8	9/16 & 3/4	9/16	14 1/2	2.80	8034
8034A	15/16 & 1 1/16	5/8	.....	5/8 & 3/4	.....	14 1/2	2.80	8034A
†8735	1 & 1 1/8	.....	3/4 & 7/8	.....	5/8 & 3/4	16 1/2	3.10	†8735
8037	1 1/16 & 1 1/4	5/8 & 3/4	.....	3/4 & 7/8	.....	16 1/2	3.10	8037
†8737	1 1/8 & 1 1/4	3/4	7/8	7/8	3/4	18 1/2	3.60	†8737
8039	1 1/4 & 1 7/16	3/4 & 7/8	.....	7/8 & 1	.....	19	3.60	8039
SHORT WRENCHES—Different Opening in Each Head								
9723	3/8 & 7/16	.....	3/16 & 1/4	1/4	1/4	4 1/2	.90	9723
9725	7/16 & 1/2	1/4	1/4 & 5/16	1/4 & 5/16	1/4	5 1/2	.95	9725
9725B	1/2 & 9/16	1/4	5/16 & 3/8	5/16 & 3/8	5/16	5 1/2	.95	9725B
9727	9/16 & 5/8	.....	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	6	1.05	9727

† Have thicker head walls for severe service.

Weights shown on pages 163 to 170.

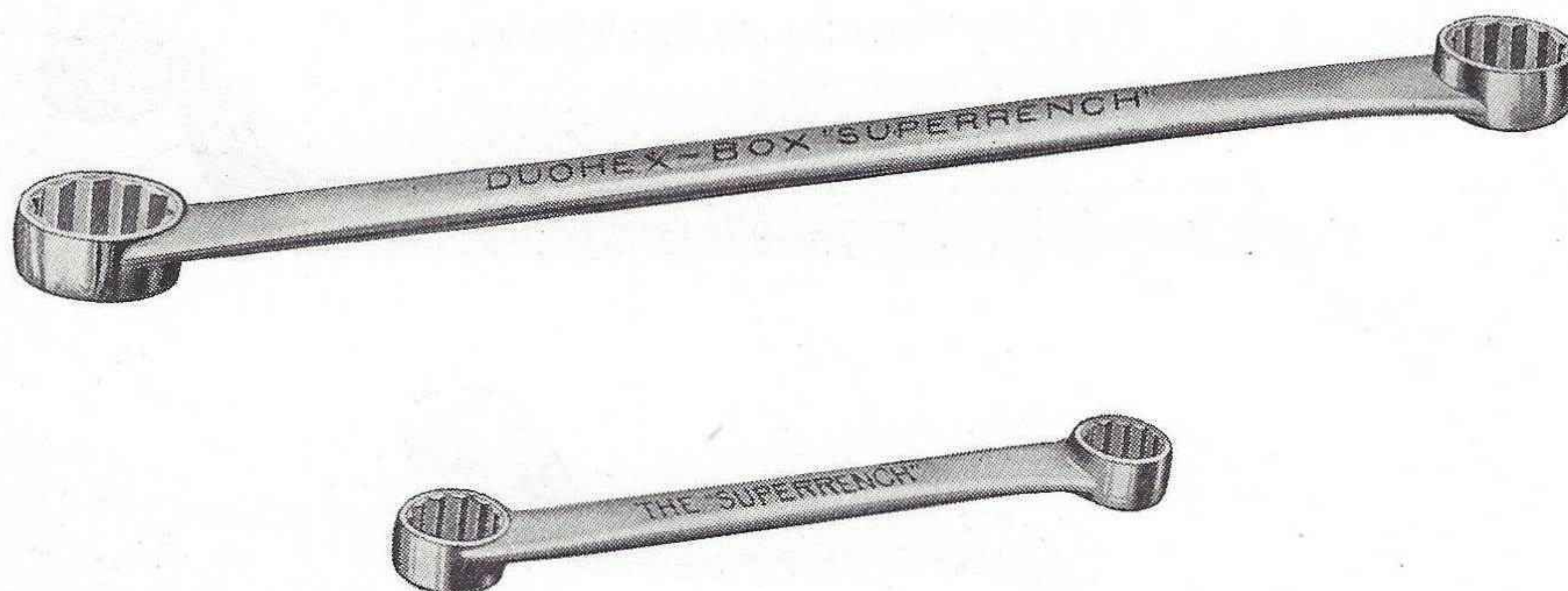
★ REGISTERED TRADE MARK

THE "SUPERRENCH"

(Chrome-Molybdenum)

DUOHEX-BOX PATTERN—LONG AND SHORT

15° Angle Offset



Every "SUPERRENCH" is Fully Guaranteed

Particularly well adapted to work in close quarters. Thin head walls permit use where clearance is extremely limited. Hex nuts are gripped on six sides, preventing all slipping and rounding of their corners. Extra length provides unusual reach and leverage.

The 12-point openings rotate hex nuts where the swing of the wrench is limited to 30°.

Drop-forged, Chrome-Molybdenum steel, accurately heat-treated and chrome-plated.

No.	12-Point Nominal Openings	U. S. Std. Hex. Nuts; Size Bolts	For Hex. Cap Screws	S. A. E. Standard Hex. Nuts	Amer. Std. Regular Hex Nuts	Ex- treme Length	PRICE Each	No.
LONG WRENCHES—Different Opening in Each								
7721	5/16 & 3/8	1/8	1/8 & 3/16	.....	.....	7	\$.75	7721
7723	3/8 & 7/16	.....	3/16 & 1/4	1/4	1/4	7 3/8	.90	7723
7023	13/32 & 1/2	3/16 & 1/4	5/16	5/16	.....	7 3/4	.90	7023
7725	7/16 & 1/2	1/4	1/4 & 5/16	1/4 & 5/16	1/4	7 3/4	.90	7725
7725B	1/2 & 9/16	1/4	5/16 & 3/8	5/16 & 3/8	5/16	8 1/4	.95	7725B
7025	1/2 & 19/32	1/4 & 5/16	5/16	5/16	.....	8 1/4	.95	7025
7727	9/16 & 5/8	.....	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	9 1/4	1.00	7727
7729	5/8 & 3/4	.....	7/16 & 1/2	7/16 & 1/2	3/8 & 7/16	10 1/2	1.15	7729
7029	11/16 & 25/32	3/8 & 7/16	.....	.....	.....	10 1/2	1.25	7029
7731A	3/4 & 7/8	1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16	12	1.30	7731A
7733	7/8 & 1	1/2	5/8 & 3/4	9/16	9/16 & 5/8	13 3/4	1.75	7733
7033C	15/16 & 1	.....	3/4	5/8 & 11/16	5/8	13 3/4	1.75	7033C
7034	7/8 & 1 1/16	1/2 & 5/8	5/8	9/16 & 3/4	9/16	15 1/2	2.80	7034
7034A	15/16 & 1 1/16	5/8	.....	5/8 & 3/4	.....	15 1/2	2.80	7034A
†7735	1 & 1 1/8	.....	3/4 & 7/8	.....	5/8 & 3/4	17 1/4	3.10	†7735
7037	1 1/16 & 1 1/4	5/8 & 3/4	.....	3/4 & 7/8	.....	17 1/4	3.10	7037
†7737	1 1/8 & 1 1/4	3/4	7/8	7/8	3/4	19	3.60	†7737
7039	1 1/4 & 1 7/16	3/4 & 7/8	.....	7/8 & 1	.....	19	3.60	7039
SHORT WRENCHES—Different Opening in Each								
6723	3/8 & 7/16	.....	3/16 & 1/4	1/4	1/4	4 1/2	.90	6723
6725	7/16 & 1/2	1/4	1/4 & 5/16	1/4 & 5/16	1/4	5 1/2	.95	6725
6725B	1/2 & 9/16	1/4	5/16 & 3/8	5/16 & 3/8	5/16	5 1/2	.95	6725B
6727	9/16 & 5/8	.....	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	6	1.05	6727

† Have thicker head walls for severe service.

Weights shown on pages 163 to 170

★ REGISTERED TRADE MARK.

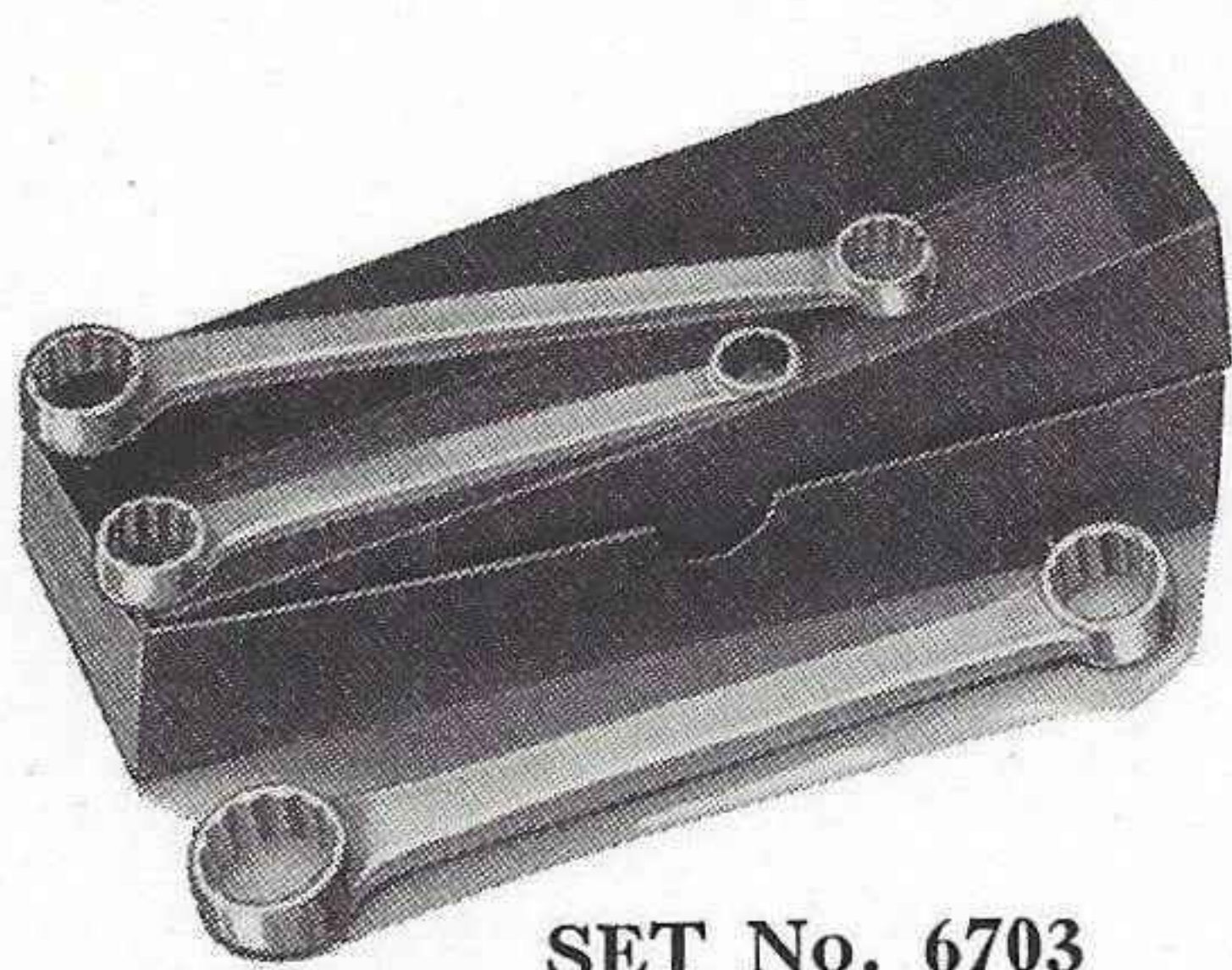
DUOHEX-BOX

✦

"SUPERRENCH"

SETS

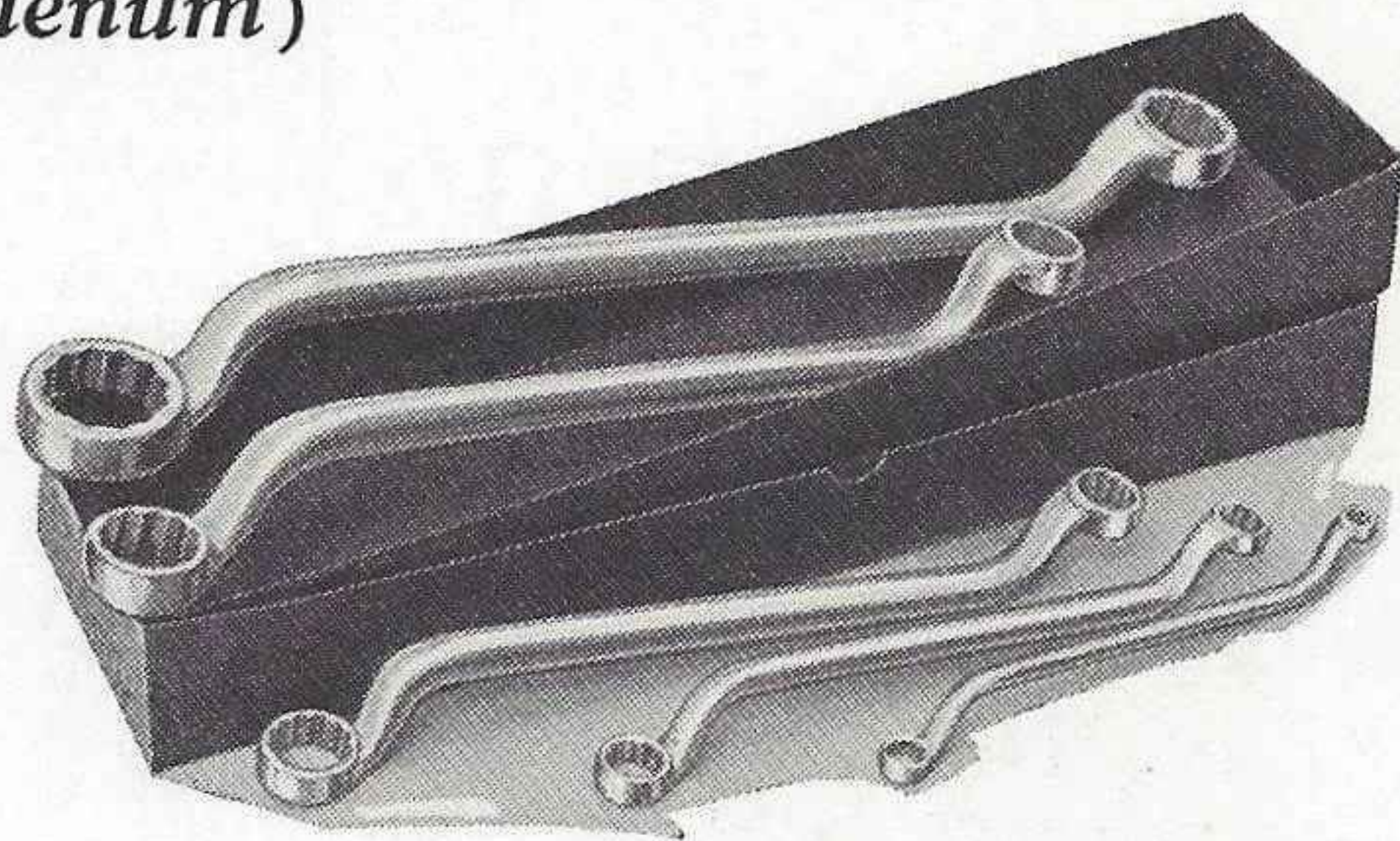
(Chrome-Molybdenum)



SET No. 6703

LIST PRICE, \$2.90

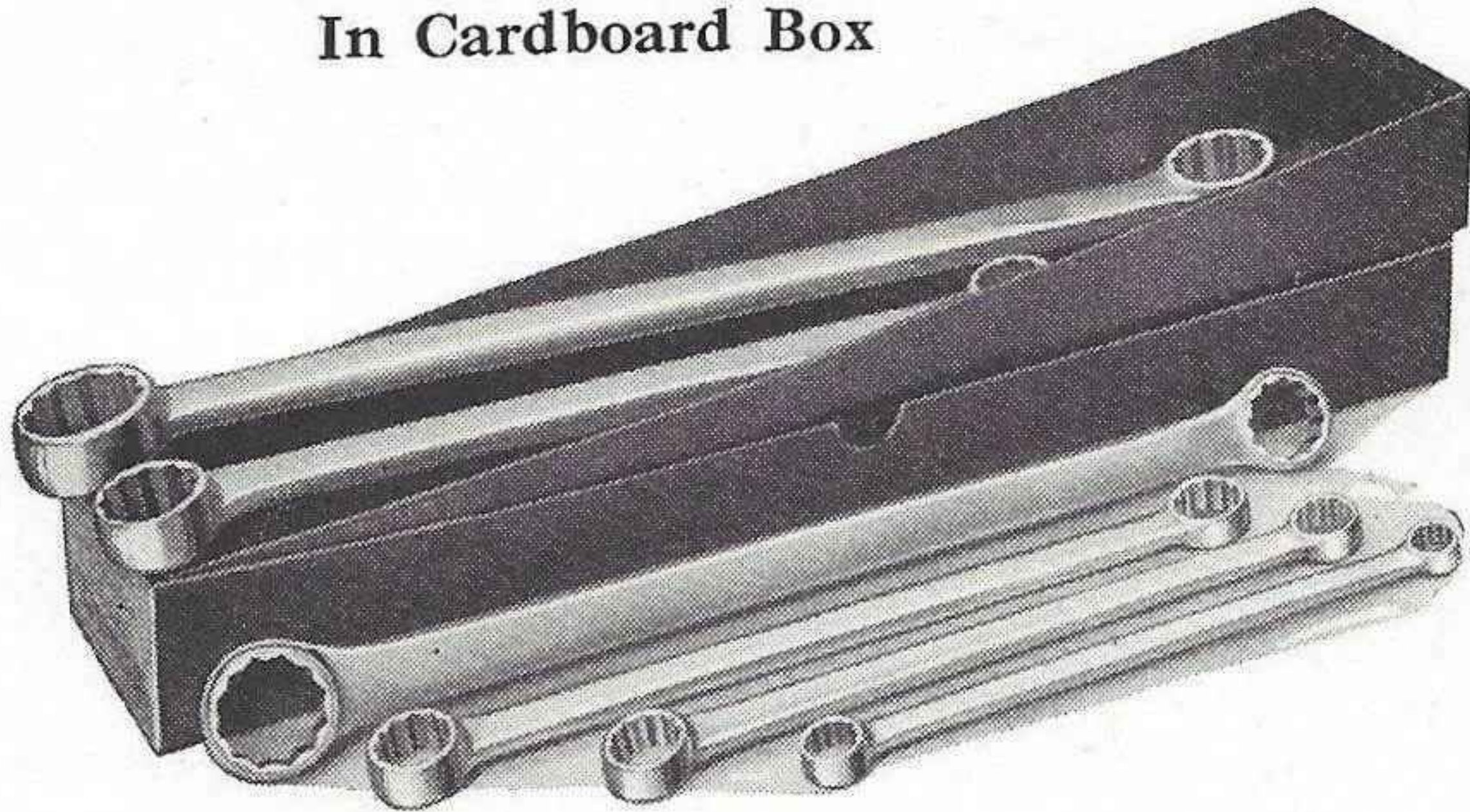
In Cardboard Box



SET No. 8005

LIST PRICE, \$7.60

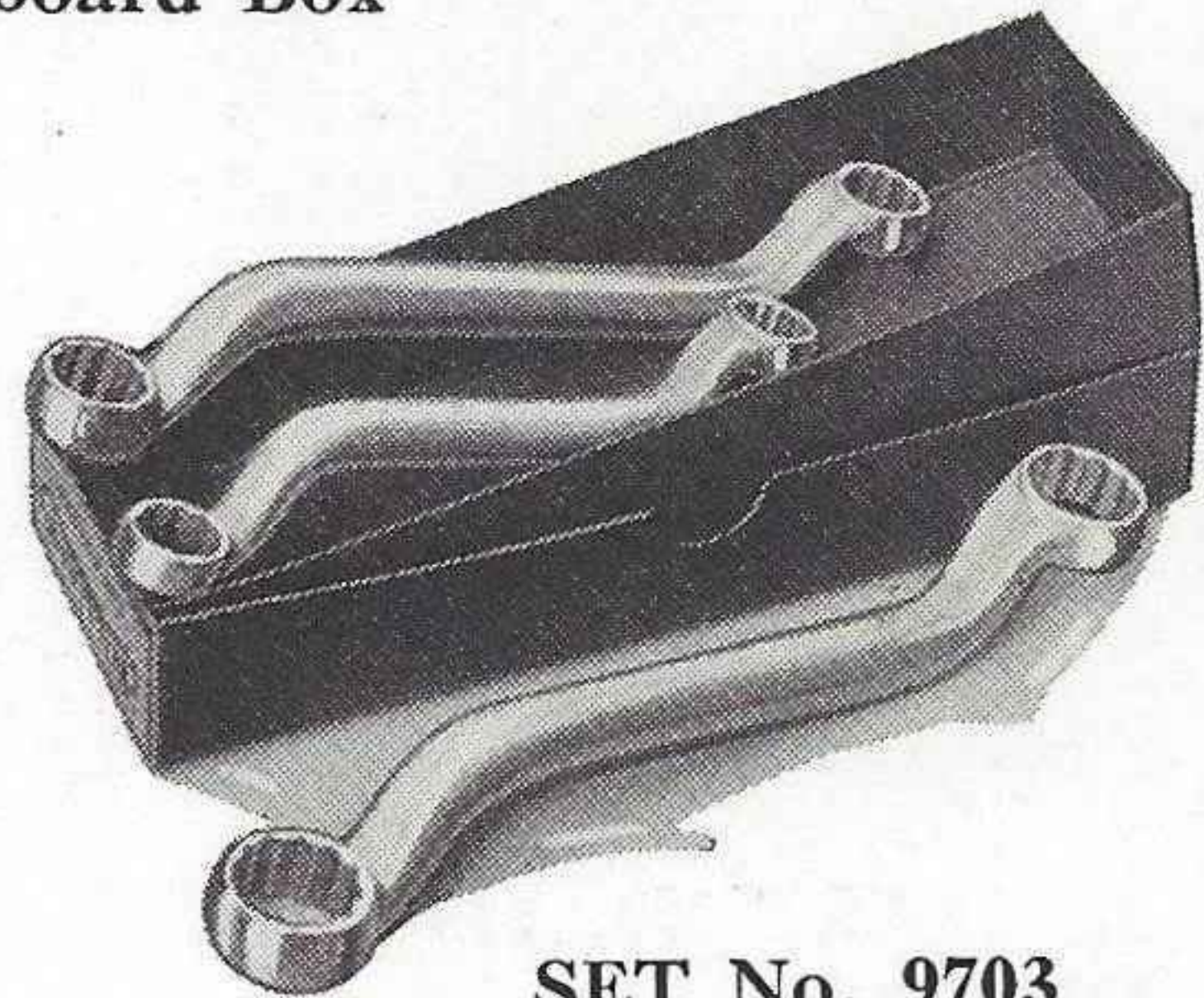
In Cardboard Box



SET No. 7006

LIST PRICE, \$7.15

In Cardboard Box



SET No. 9703

LIST PRICE, \$2.90

In Cardboard Box

No.	Openings	U. S. S. Nuts	Hex Cap Screws	S. A. E. Nuts	Amer. Std. Regular Nut	Length	PRICE Each	No.
CONTENTS OF SET No. 6703								
6723	3/8 & 7/16	.....	3/16 & 1/4	1/4	1/4	4 1/2	\$.90	6723
6725	7/16 & 1/2	1/4	1/4 & 5/16	1/4 & 5/16	1/4	5 1/2	.95	6725
*6725B	1/2 & 9/16	1/4	5/16 & 3/8	5/16 & 3/8	5/16	5 1/2	.95	*6725B
6727	9/16 & 5/8	.....	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	6	1.05	6727
CONTENTS OF SET No. 7006								
7723	3/8 & 7/16	.....	3/16 & 1/4	1/4	1/4	7 3/8	\$.90	7723
7025	1/2 & 19/32	1/4 & 5/16	5/16	5/16	.....	8 1/4	.95	7025
7727	9/16 & 5/8	.....	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	9 1/4	1.00	7727
7029	11/16 & 25/32	3/8 & 7/16	.....	.....	.....	10 1/2	1.25	7029
7731A	3/4 & 7/8	1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16	12	1.30	7731A
7033C	15/16 & 1	.....	3/4	5/8 & 11/16	5/8	13 3/4	1.75	7033C
CONTENTS OF SET No. 8005								
8021	5/16 & 13/32	1/8 & 3/16	1/8	.....	.....	7 1/2	\$.75	8021
8025	1/2 & 19/32	1/4 & 5/16	5/16	5/16	.....	9	.95	8025
8029	11/16 & 25/32	3/8 & 7/16	.....	.....	.....	11	1.25	8029
8033	7/8 & 31/32	1/2 & 9/16	5/8	9/16	9/16	13 1/2	1.55	8033
8037	1 1/16 & 1 1/4	5/8 & 3/4	.....	3/4 & 7/8	.....	16 1/2	3.10	8037
CONTENTS OF SET No. 9703								
9723	3/8 & 7/16	.....	3/16 & 1/4	1/4	1/4	4 1/2	\$.90	9723
9725	7/16 & 1/2	1/4	1/4 & 5/16	1/4 & 5/16	1/4	5 1/2	.95	9725
*9725B	1/2 & 9/16	1/4	5/16 & 3/8	5/16 & 3/8	5/16	5 1/2	.95	*9725B
9727	9/16 & 5/8	.....	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	6	1.05	9727

*Wrenches Nos. 6725 and 9725 are regularly supplied in Sets Nos. 6703 and 9703 respectively, but

Wrenches Nos. 6725B and 9725B may be substituted, if desired.

Fully Guaranteed

For full line of DuoHex-Box Patterns, see 3 previous pages.

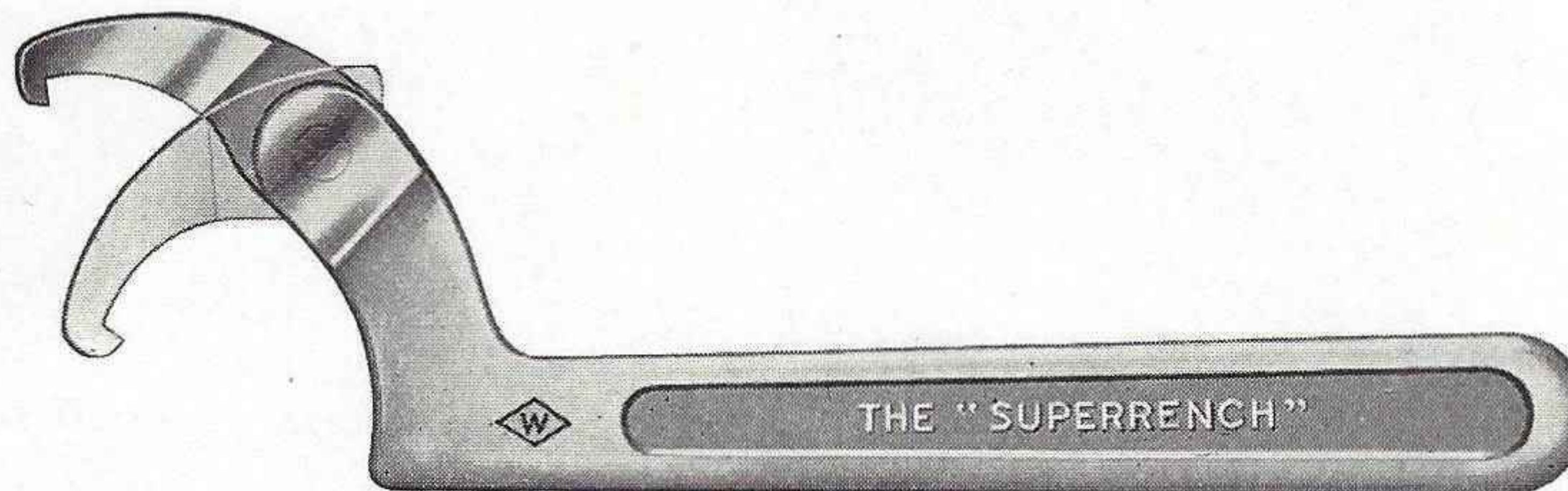
✦ REGISTERED TRADE MARK

THE "SUPERRENCH" (Chrome-Molybdenum)

ADJUSTABLE HOOK SPANNERS



SET No. 1400
PRICE, Complete—\$12.10
 In Leatherette Roll
 1 Each, Nos. 1471, 1472, 1474



Three sizes of Spanners offer an unusual combination of strength and ready adjustment, fitting all rounds from $\frac{3}{4}$ to $4\frac{3}{4}$ " diameter.

Drop-forged from Chrome-Molybdenum steel, heat-treated and chrome-plated, face of jaw and raised part of handle buffed bright.

Sold individually, or in Set No. 1400 which covers a wide field of usefulness. It is especially serviceable on spindle bearings of lathes, milling machines and grinding machines. Also, for adjusting collars and slotted rings used on many types of automatic machines.

No.	Capacity for Circles, Diameter	Extreme Length, Approx.	Thickness		Depth Hook	PRICE	No.
			Handle	Hook		Chrome-Plated	
1471	$\frac{3}{4}$ to 2	$6\frac{3}{8}$	$\frac{1}{4}$	$\frac{11}{32}$	$\frac{1}{8}$	\$3.05	1471
1472	$1\frac{1}{4}$ to 3	$8\frac{1}{8}$	$\frac{9}{32}$	$\frac{13}{32}$	$\frac{5}{32}$	3.50	1472
1474	2 to $4\frac{3}{4}$	$11\frac{3}{8}$	$\frac{5}{16}$	$\frac{15}{32}$	$\frac{3}{16}$	4.85	1474

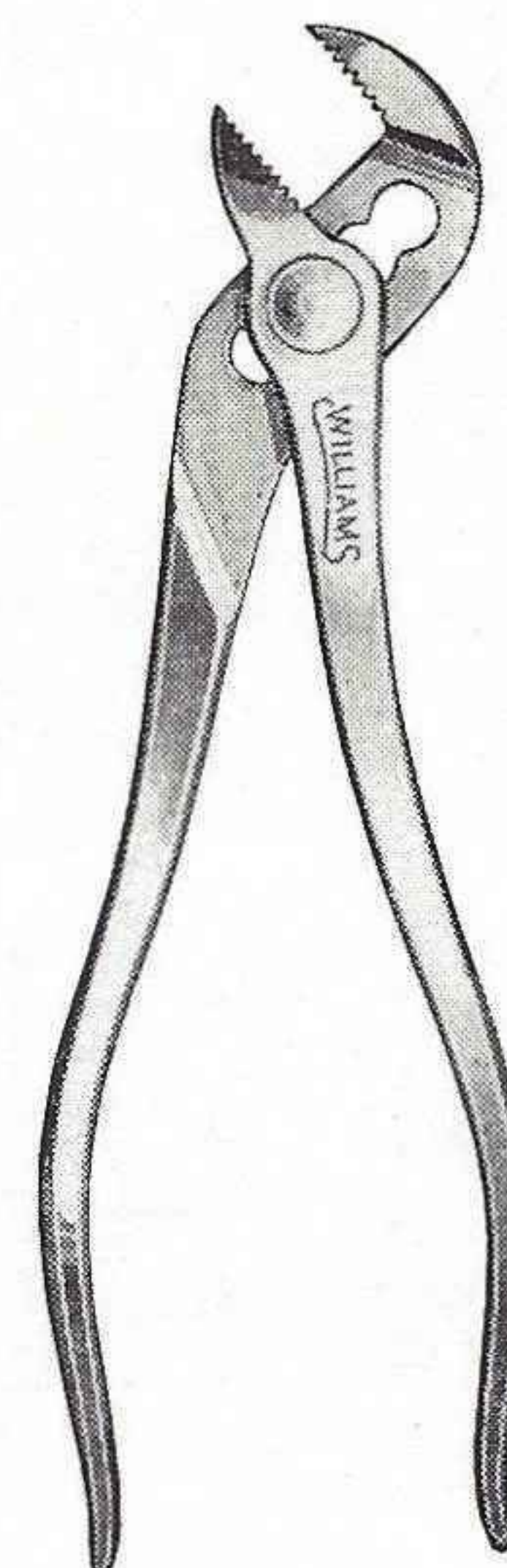
MIDGET "SUPERPLIER" No. 1519 (Chrome-Alloy)

LIST PRICE, Each \$ 1.85

Drop-forged from special Chrome-Alloy steel and heat-treated. The bolt affords the greatest strength and rigidity possible in thin slip-joint construction.

This midget size tool (length $4\frac{1}{2}$ "—weight 1 oz.), is especially designed for use in connection with distributors, ignition systems, wiring, panels, switch-boards, radios, carburetors, clocks, etc. and the innumerable jobs requiring small pliers with thin, slim jaws.

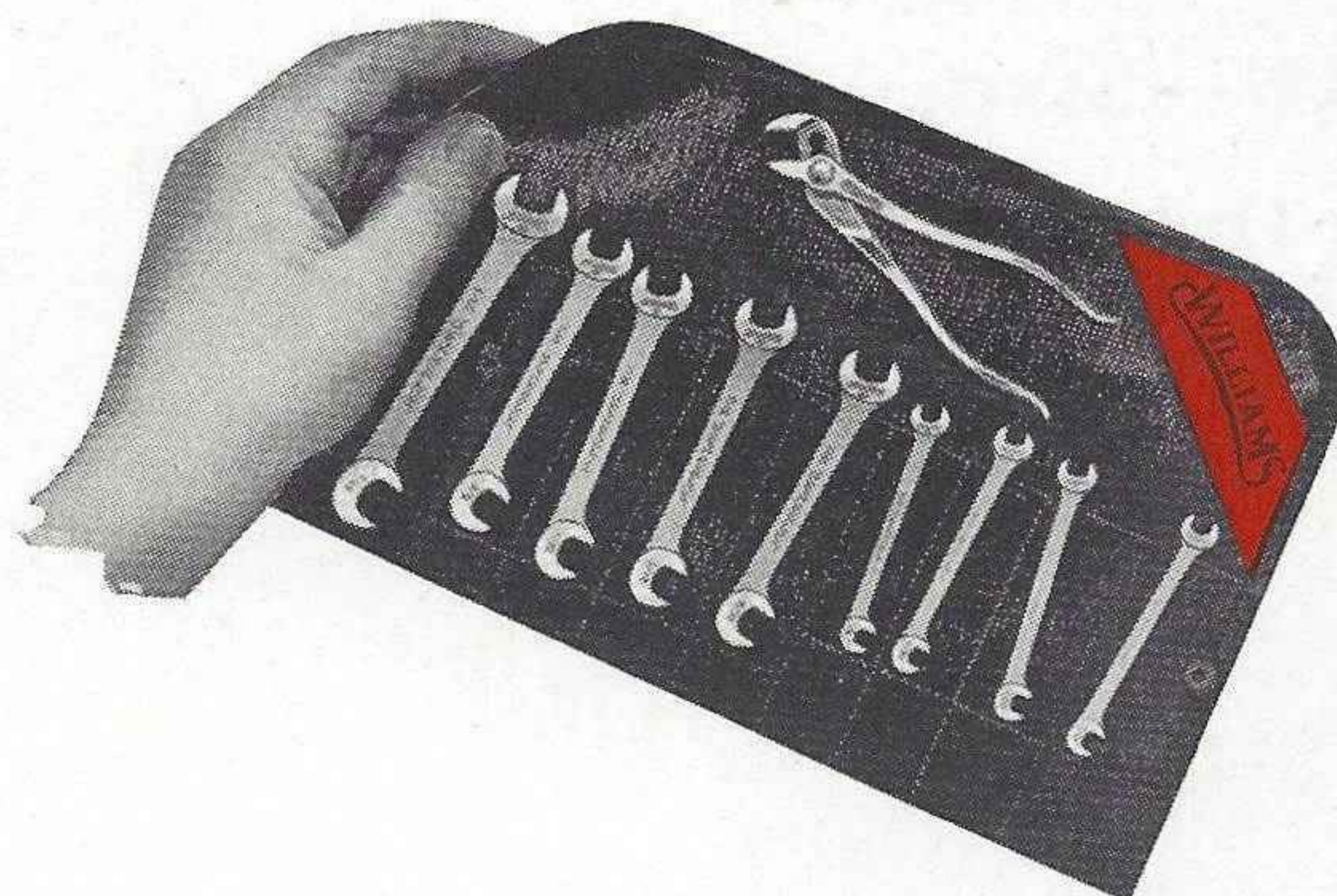
The 4-position slip-joint provides openings from 0 to $\frac{9}{16}$ ", with the jaws paralleled at the most important openings. The slightly flared ends of the handles give ideal finger control. Cadmium-plated.



◆ REGISTERED TRADE MARK

Fully Guaranteed

MIDGET ♦ "SUPERRENCHES" (Chrome-Molybdenum—Chrome-Plated)



ELECTRICAL SET No. 1139P

LIST PRICE

Complete in Leatherette Roll

Set 1139P—with "Superplier" No. 1519...\$8.65

Set 1139—without "Superplier"..... 6.80

Set No. 1139P will be furnished,
unless otherwise specified.

An assortment of 9 Midget "Superrenches" and "Superpliers" 1519, for those troublesome little jobs requiring small tools that are a *help*—not a hindrance.

Midget "Superrenches" are extremely light and thin, yet amazingly strong. Both openings in each wrench are the same size, *but at different angles* (15° and 75°)—*where one head can not operate, the other will*. On magnetos, timers, generators, wiring-connections, carburetors, radios—all delicate adjustments, or in the closest quarters, this Set is invaluable. The wrenches are sold individually, also; see table below.

Midget "Superplier" No. 1519 fully described on page 64.

MIDGET "SUPERRENCHES"

No.	Nominal Openings	Ex-treme Length	Thick-ness Heads	Price	No.	No.	Nominal Openings	Ex-treme Length	Thick-ness Heads	Price	No.
1113	13/64 & 13/64	3	3/32	\$.65	1113	1122	11/32 & 11/32	3 3/4	1/8	.72	1122
1114	7/32 & 7/32	3	3/32	.65	1114	1124	3/8 & 3/8	3 3/4	1/8	.72	1124
1115	15/64 & 15/64	3	3/32	.65	1115	1128	7/16 & 7/16	4 1/2	5/32	.82	1128
1116	1/4 & 1/4	3	3/32	.65	1116	*1132	1/2 & 1/2	4 1/2	5/32	.82	*1132
1118	9/32 & 9/32	3 3/4	1/8	.72	1118	*No. 1132 NOT included in Set.					
1120	5/16 & 5/16	3 3/4	1/8	.72	1120						

ELECTRICAL SET No. 1148P

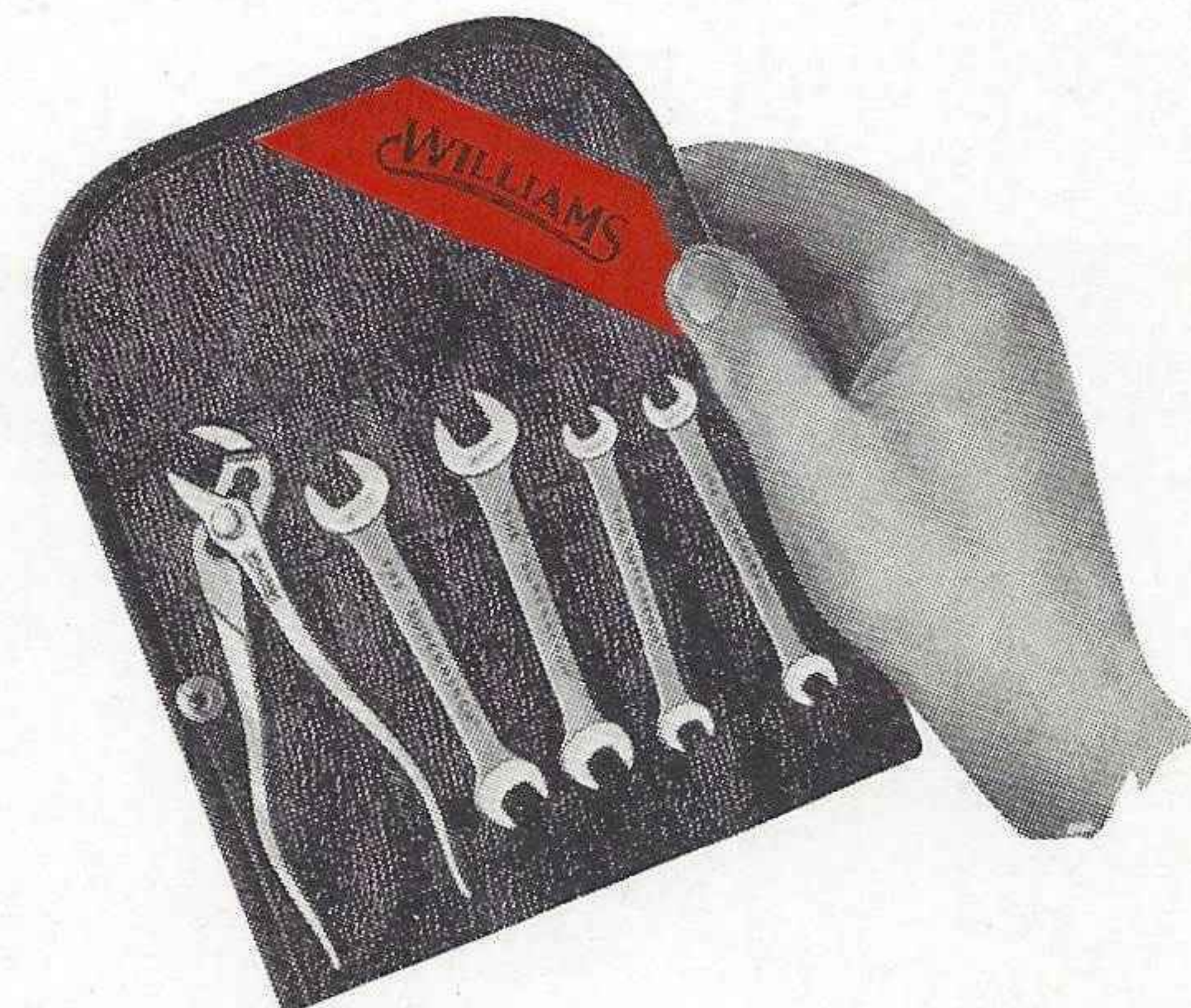
LIST PRICE, \$5.15

Complete in Leatherette Roll

A compact, handy assortment of four mid-get size wrenches and one plier at very moderate price. All are especially designed for use in connection with distributors, ignition systems, wiring, panels and switchboards, radios, carburetors and the innumerable jobs requiring small tools with thin, tapered jaws.

Midget "Superrenches" are unusually thin and slim, but surprisingly tough and strong. Each has two different openings at 15° angle; see table at right.

Midget "Superplier" No. 1519 fully described on page 64.



No.	Nominal Openings	Ex-treme Length	Thick-ness Heads	Price
1106	13/64 & 7/32	3	3/32	\$.65
1107	15/64 & 1/4	3	3/32	.65
1108	9/32 & 11/32	3 1/2	1/8	.72
1109	5/16 & 3/8	3 1/2	1/8	.72

Every "SUPERRENCH" is Fully Guaranteed

For Combination Sets of Midget "Superrenches" and "Supersockets", see pages 73 and 74.

♦ REGISTERED TRADE MARK

JUNE 1937

THE ★ "SUPERRENCH"
 (Chrome-Molybdenum)

OPEN-BOX PATTERN—SINGLE HEAD
 WITH 12-POINT OPENING



Every "SUPERRENCH" is Fully Guaranteed

These efficient Wrenches provide all the advantages of the popular 12-point box design, plus those of the open-end type. Their open box allows the wrench opening to straddle pipes, tubes, shafts, etc., and to adjust nuts and fittings thereon. Especially handy on flared-nuts in refrigeration work and very useful in general industrial service.

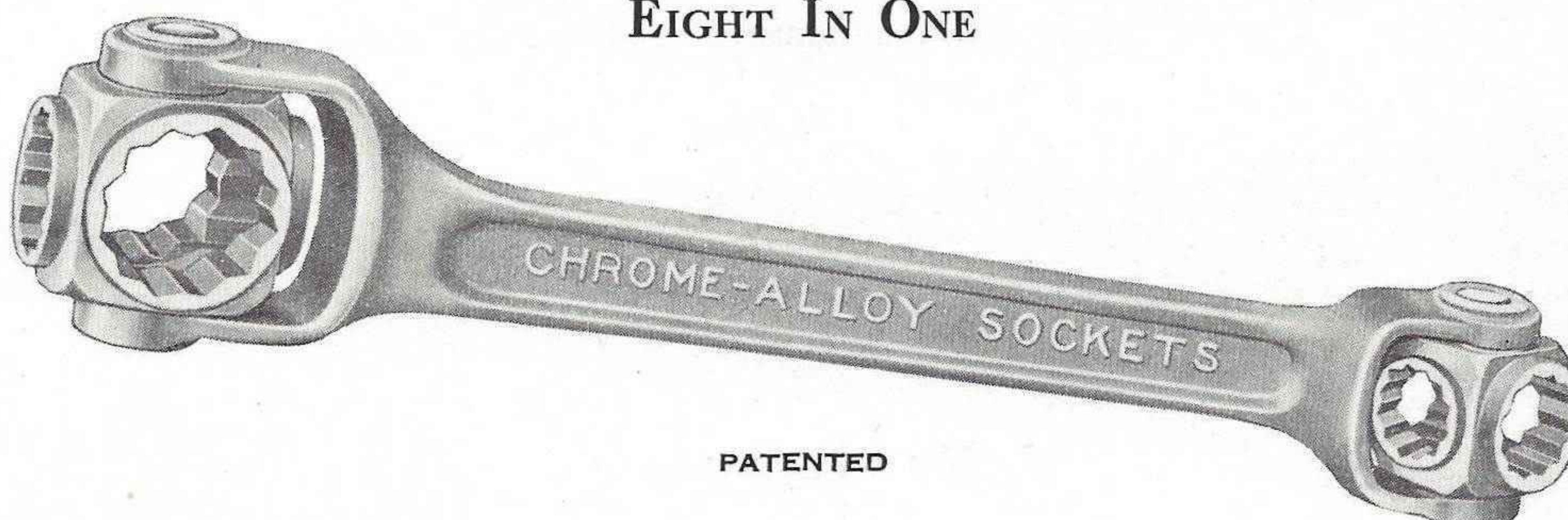
With the 12-point (double hex) openings, the nut can be completely rotated where the swing of the wrench is limited to 30°. Their gripping power is more than double that of ordinary wrenches—cannot slip in operation. Thin heads and narrow jaws permit easy operation in close quarters.

GENUINE "Superrenches", forged from Chrome-Molybdenum steel, heated-treated and chrome-plated, with polished heads.

No.	Nominal Opening	Extreme Length, Approx.	Thickness of Head	PRICE Chrome-Finished	No.
8924	3/4	6-1/2	1/4	\$ 1.15	8924
8928	7/8	6-1/2	1/4	1.15	8928
8930	15/16	6-1/2	1/4	1.15	8930
8932	1	6-1/2	1/4	1.15	8932
8933	1-1/32	6-1/2	1/4	1.15	8933
8934	1-1/16	6-1/2	1/4	1.15	8934
8936	1-1/8	6-1/2	1/4	1.15	8936
8938	1-3/16	7	9/32	1.40	8938
8940	1-1/4	7	9/32	1.40	8940
8942	1-5/16	7	9/32	1.40	8942
8944	1-3/8	7	9/32	1.40	8944
8946	1-7/16	7-1/2	5/16	1.40	8946
8948	1-1/2	7-1/2	5/16	1.40	8948
8950	1-9/16	7-1/2	5/16	1.40	8950
8952	1-5/8	7-1/2	5/16	1.40	8952

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

"MULTISOCKET" WRENCH No. 1999
(Cadmium-plated)**EIGHT IN ONE****LIST PRICE—\$4.00 Each****EIGHT DIFFERENT, 12-POINT OPENINGS:—****Small Head**

7/16, 1/2, 9/16, 19/32"

Large Head

5/8, 11/16, 3/4, 7/8"

Length 9"—Weight 1-1/8 lbs.

Williams' "Multisocket" Wrench is virtually an entire wrench kit in only one tool. Its ingenious design makes it almost indispensable to every mechanic.

The openings grip hex nuts on six sides preventing all slipping and rounding of the nuts' corners.

Swivel heads, with index spring to retain working opening in position for use, permit handle to be operated at practically any angle desired. Can be used as a socket wrench.

The entire wrench is drop-forged, heat-treated and finished in cadmium-plate.

**DISPLAY CARD**

12-1/2 x 14-3/4"

With Easel Back

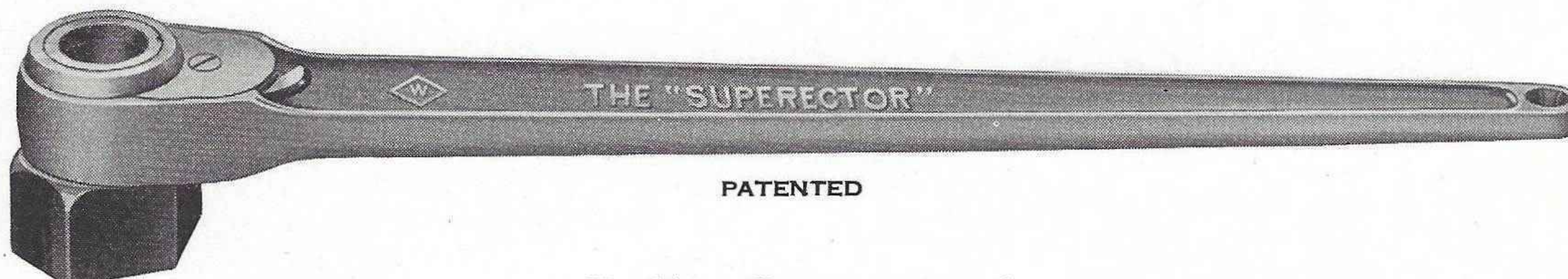
Free with Purchase of Wrenches

This colorful "Silent Salesman" was designed especially to make a distinctive appearance on the counter. In brilliant orange, black and gold, it makes a splendid background for the six "Multisocket" Wrenches it displays. Free with purchase of wrenches.

Fully Guaranteed

THE "SUPERECTOR" REVERSIBLE RATCHET WRENCH

With Quadruple Pawls and Drop-Forged Handle



Fully Guaranteed

"Superector" Ratchet Wrenches are built for rapid operation in the most severe service such as bridge, structural and other work requiring fast, dependable and rugged tools. They are instantly reversible in action. Three sizes of mechanism—E1, E2, E3—in five long, slim but powerful handles provide ample leverage for the hardest jobs.

Only WILLIAMS' "SUPERECTOR" offers all the following advantages:—

QUADRUPLE PAWLS. Instead of the usual single pawl, engaging one gear tooth, The "Superector" provides increased strength by the constant engagement of 2 pawls with 2 teeth. Pawls are of hardened tool steel and provide the sturdiest construction possible.

HANDLE is **drop-forged**—not cast; utilizes the extra strength afforded by pawls.

GEAR TEETH. The "Superector" is the only line of wrenches of this type with 20 teeth in all socket gears, instead of the usual 16 teeth. Consequently, all wrenches will rotate nuts with only an 18° swing of the wrench as against 22 1/2°.

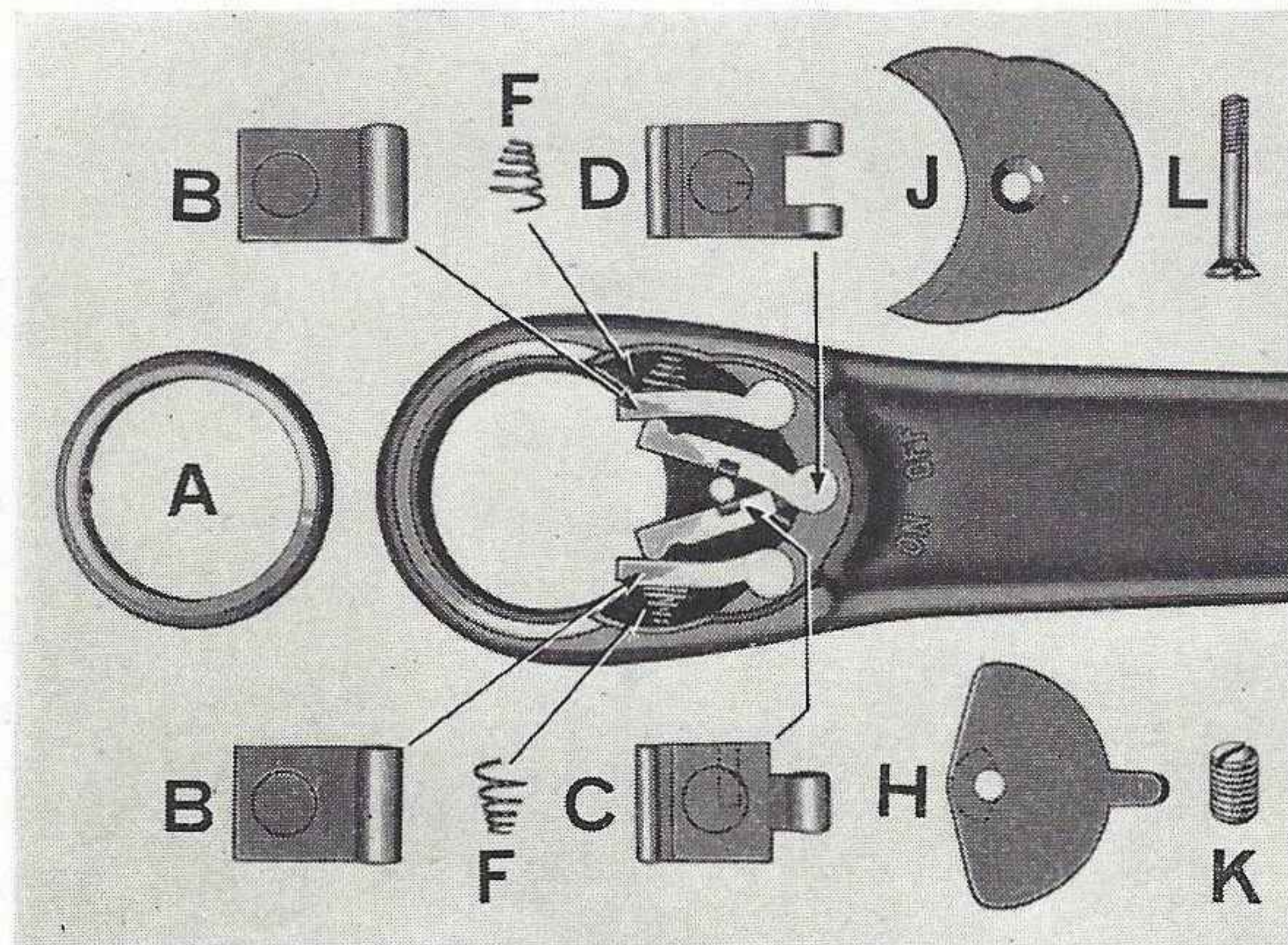
SHIFTER when in neutral, completely disengages all pawls for easy insertion and removal of the Socket. A flip of the lever reverses the wrench action.

COLLAR for retaining Socket is easily assembled with latter since it is provided with means to align instantly with socket-retaining screws.

CAP, securely seated in the wrench head, fully encloses the mechanism.

Wrenches and Sockets are finished in light metallic gray enamel.

EXTRA "SUPERECTOR" PARTS



Always specify whether Part is
for Wrench No. E1, E2, or E3

Sym- bol	Part	PRICE, Each		
		E1	E2	E3
A	Collar, only.....	\$1.25	\$2.80	\$7.20
B	Pawls, Outside...	.60	1.00	1.65
C	" Inside-Male..	.60	1.00	1.65
D	" " -Female	.60	1.00	1.65
F	Spring.....	.15	.20	.25
H	Shifter.....	1.00	1.50	3.25
J	Cap.....	.60	1.00	2.85
L	Cap Screw.....	.25	.40	.60
K	Socket-Retaining Screw.....	.08	.11	.11

(Continued on following page)

THE "SUPERECTOR" REVERSIBLE RATCHET WRENCH

With Quadruple Pawls and Drop-Forged Handle



Hex Sockets

Sockets have hole extending clear through their center so that nuts may be turned on any length of bolt. They are in three groups—E1, E2 and E3—to fit corresponding wrench handles, as shown in table below. Sockets in one group are not interchangeable with those in another group. All are heat-treated.

For Whitworth Standard, see page 161.



Square Sockets

When ordering, always specify Wrenches and Sockets by number

WRENCHES			SOCKETS ONLY—Hex and Square										
No.	Length from center of Head	PRICE Wrench without Socket	Nominal Opening, Across Flats	Number		U. S. Std. Nut and Amer. Std. Heavy Nut, Hex & Sqr.	Hex Head Cap Screw	S.A.E. Std. Nut Hex Only	Am. Std. Regular Nut, Hex & Sqr.	PRICE Hex or Sq Socket Only			
				Hex Socket	Square Socket								
E1 SOCKETS below fit E1-24 and E1-36 Wrenches ONLY													
E1-24	24	\$12.60	1	.....	E1-416	.....	3/4	.....	5/8	\$ 4.85
			1 1/16	E1-617	E1-417	5/8	.....	3/4	.....	4.85	
E1-36	36	19.80	1 1/8	E1-618	E1-418	.....	7/8	.....	3/4	4.90	
			1 1/4	E1-620	E1-420	3/4	.....	7/8	.....	5.00	
			1 5/16	E1-621	E1-421	.....	1	.....	7/8	5.10	
			1 7/16	E1-623	E1-423	7/8	.....	1	.....	5.20	
			1 1/2	E1-624	E1-424	.....	1 1/8	.....	1	5.30	
			1 5/8	E1-626	E1-426	1	.....	1 1/8	.....	5.40	
			1 11/16	E1-627	.....	.....	1 1/4	.....	1 1/8	5.50
			1 13/16	E1-629	E1-429	1 1/8	.....	1 1/4	.....	5.65	
			1 7/8	E1-630	E1-430	.....	.....	.....	1 1/4	5.75
			2	E1-632	E1-432	1 1/4	.....	1 3/8	.....	5.90	
			2 1/16	E1-633	.....	.....	.....	.....	1 3/8	6.00
			2 3/16	E1-635	E1-435	1 3/8	.....	1 1/2	.....	6.20	
			2 1/4	E1-636	E1-436	.....	.....	.....	1 1/2	6.40
			Note: Sockets at right fit both above Wrenches.										
E2 SOCKETS below fit E2-36 and E2-48 Wrenches ONLY													
E2-36	36	\$25.20	2	E2-632	E2-432	1 1/4	.....	1 3/8	.....	\$ 9.70	
			2 3/16	E2-635	E2-435	1 3/8	.....	1 1/2	.....	10.00	
E2-48	48	32.40	2 3/8	E2-638	E2-438	1 1/2	.....	.....	.....	10.40
			2 9/16	E2-641	E2-441	1 5/8	.....	.....	.....	10.80
			2 3/4	E2-644	E2-444	1 3/4	.....	.....	.....	11.30
			2 15/16	E2-647	E2-447	1 7/8	.....	.....	.....	11.85
			3 1/8	E2-650	E2-450	2	.....	.....	.....	12.40
			Note: Sockets at right fit both above Wrenches.										
			E3 SOCKETS below fit E3-48 Wrenches ONLY										
E3-48	53	\$50.40	3 1/8	E3-650	E3-450	2	.....	.....	.....	\$20.10
			3 1/2	E3-656	E3-456	2 1/4	.....	.....	.....	20.80
Note: Sockets at right fit the above Wrench only.			3 7/8	E3-662	E3-462	2 1/2	.....	.....	.....	21.60
			4 1/4	E3-668	E3-468	2 3/4	.....	.....	.....	22.55
			4 5/8	E3-674	E3-474	3	.....	.....	.....	23.65

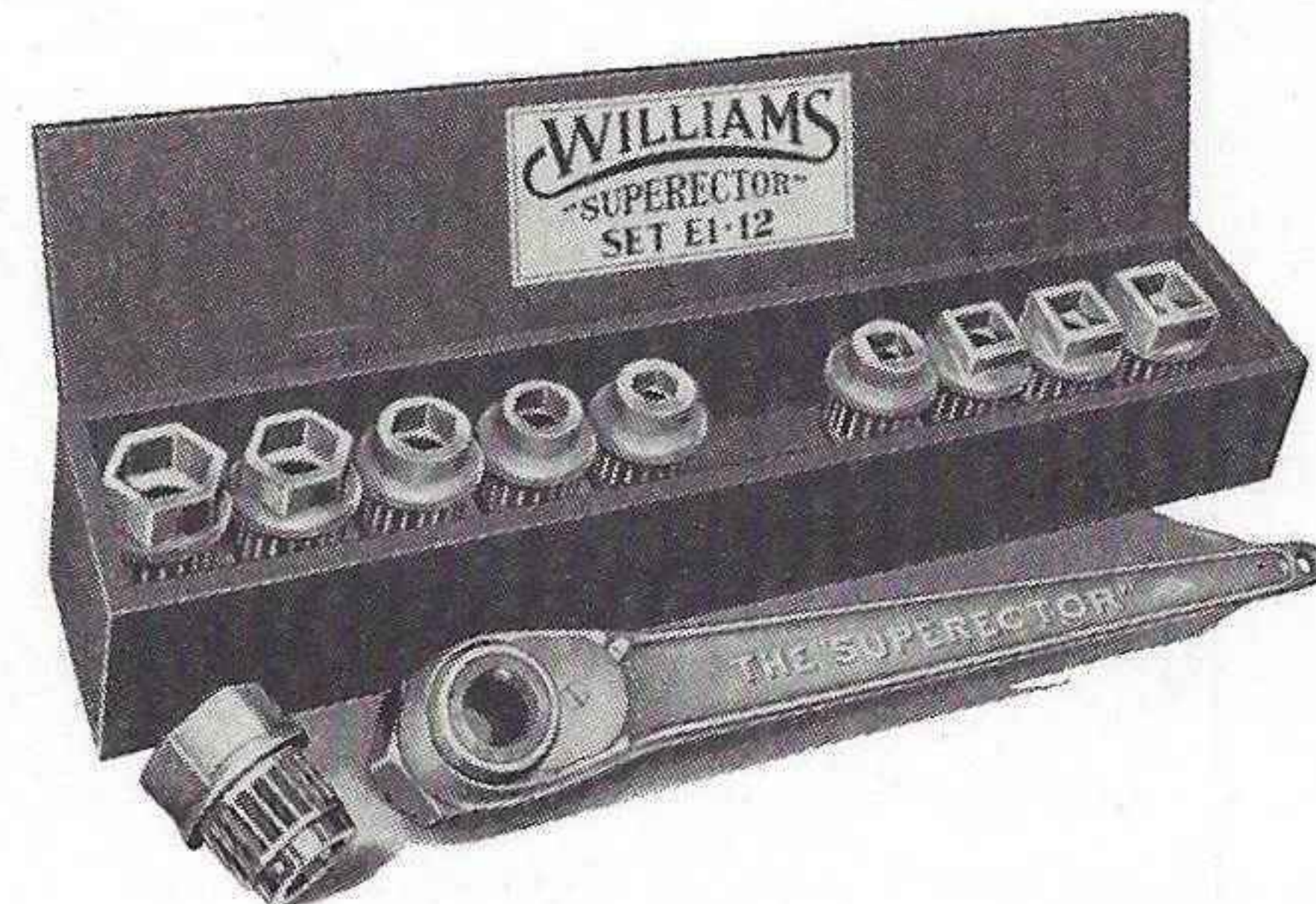
"SUPERECTOR" SET No. E1-12

LIST PRICE, Complete—\$71.25
In Wooden Box, 36 x 6 x 5 1/2"

"Superector" Wrench E1-24 and 11 Sockets:—

7 Hex—1 1/16, 1 1/4, 1 7/16, 1 5/8, 1 13/16, 2 and 2 3/16".

4 Square—1 1/16, 1 1/4, 1 7/16 and 1 5/8".



★ REGISTERED TRADE MARK

♦ “SUPERSOCKET” WRENCHES

Detachable Socket Wrenches possess certain inherent advantages that make them almost indispensable to industrial users. Williams’ new line of “Supersocket” Wrenches, therefore, will be of interest to every mechanic and to all machine shops and industrial plants, large and small, because:—

They offer a wide selection in the combination of regular parts to make the complete wrench, which can be easily and quickly “built up” to suit the individual job. No other wrench system even approaches Detachable Socket Wrenches in this respect.

Since the form of the complete wrench can be readily changed to adapt it to a great variety of needs, quickness, ease and economy in operation on each job are assured. Williams’ line provides for unusual speed in such changes.

Extra strength is provided in Williams’ “Supersockets” by the use of Special Alloy steel.

For work in close corners they are unequalled. Socket walls are thin; consequently they operate in corners and cramped quarters where other tools are often useless.

Williams’ “Supersocket” Line offers complete equipment for almost every conceivable variety of service. Five separate and distinct patterns of Sockets, with a full assortment of Handles and Parts for each, cover practically all industrial needs:—

MIDGET Electrical— $9/32''$ Square Drive. Slim, Straight Wall Sockets for all delicate adjustments. Openings, $3/16$ to $7/16''$ —4, 6, 8 and 12-points.

BANTAM— $3/8''$ Square Drive. Light, but strong Straight Wall Sockets with thin walls for use in close quarters. 12-point openings, $1/4$ to $3/4''$.

STANDARD— $1/2''$ Square Drive, includes Sockets with 12-point and Square openings up to $1-1/4''$ for general service.

HEAVY DUTY— $3/4''$ Square Drive. Sockets have 12-point openings $7/8$ to $2-1/4''$. Made for harder service than the ordinary run of work.

EXTRA HEAVY DUTY, with $1''$ Hex Drive and Sockets with 12-point openings $1-1/16$ to $2-3/4''$, is especially designed for the toughest sort of service. Its rugged strength is ample for the hardest jobs.

♦ “SUPERSOCKET” NUMBERING SYSTEM

The system of numbering Sockets and Parts in the “Supersocket” Wrench line is unique. Developed by J. H. Williams & Co., as a convenience to the trade, the system has proved so simple in application that it has met general approval. Description follows:—

(Continued on next page)

♦ “SUPERSOCKET” WRENCHES

(Continued)

The five Patterns of “Supersockets” are called—

“Midget”	“Bantam”	“Standard”	“Heavy Duty”	“Extra Heavy Duty”
----------	----------	------------	--------------	-----------------------

The symbol for each pattern is:

M	B	S	H	X
---	---	---	---	---

The drive for each pattern is:

9/32" Sgre.	3/8" Sgre.	1/2" Square	3/4" Square	1" Hex
-------------	------------	-------------	-------------	--------

SOCKET NUMBERS

1. Prefix letter in the piece number indicates the Pattern and hence the size of drive. Thus, No. S-1214 indicates Standard Pattern, 1/2" square drive.

2. The first figure, or the first two figures in the piece number indicate the number of “points” in the opening of the “Supersocket”—i.e., 4, 6, 8 or 12 points. Thus, No. S-1214 indicates Standard Pattern, 1/2" square drive, 12-point opening. Similarly No. S-414 indicates a 4-point (square) opening of same size.

3. The last two figures in the piece number indicate the nominal socket opening in 32nds of an inch. Thus, No. S-1214 indicates Standard Pattern, 1/2" square drive, 12-point 14/32, or 7/16" opening.

4. Variations: Standard Pattern Sockets are Taper Nose, or Straight Wall in style. The prefix ST indicates Straight Wall. Similarly, SD as prefixed to the piece number means Extra Deep Standard sockets.

HANDLES and PARTS NUMBERS

1. Prefix letter in the piece number indicates pattern and hence size of drive, similarly to Sockets, above.

2. Figures indicate the particular Part. The same figures are used in *all* other Patterns of the same style Part. For instance:—

	Midget	Bantam	Standard	Heavy Duty	Extra Heavy Duty
Sliding T Handle	M-20A	B-20A	S-20C	H-20A	X-20B

3. The suffix letter denotes some variation in form. The “C” in No. S-20C, for instance, indicates the handle is offset, *not* straight, as are M-20A, B-20A, etc.

SETS. For the convenience of users, careful selections of popular size Sockets are combined with the Handles and Parts, necessary for desirable Socket Wrench combinations, and assembled in Sets as described herein. They supply maximum service in a minimum number of tools and, hence, are convenient, efficient and economical.

Williams’ “Supersocket” Wrenches are strong, dependable tools in which Williams’ high standard of quality has been maintained throughout. All Sockets, Handles and Parts are finished in chrome-plate over nickel. All are

Fully Guaranteed

♦ REGISTERED TRADE MARK

★ "SUPERSOCKET" WRENCHES

(Chrome-plated over Nickel)

MIDGET PATTERN

9/32" Square Drive

SOCKETS

Williams' Midget "Supersockets" are unequalled in cramped quarters and for delicate adjustments. Invaluable time-savers on Magnetos, Timers, Generators, Carburetors, Radios, Refrigerators, etc.

Their thin, straight walls enable them to operate readily on troublesome little jobs where no ordinary socket or wrench could even get in and grip the nut.

With
4, 6, 8
& 12-Point
Openings



Accurately made from a superior grade of Chrome-Alloy steel and heat-treated in electric furnaces. Uniformity of product and dependable strength are assured.

For special Refrigerator Sockets and Set, see page 92.

Nominal Opening	SOCKETS						SQUARE		
	Hexagon & 12-Point Sockets		U. S. Std. Hex Nut; Size Bolt	Hex Cap Screw Size Screw	S. A. E. Std. Hex Nut; Size Bolt	Amer. Std. Machine Screw Hex Nut	Square & 8-Point Sockets No.	PRICE	Nominal Opening
	No.	PRICE							
3/16	M-606	\$.45	.....	.....	.....	No. 2 & 3	M-406	\$.45	3/16
7/32	M-607	.45	.....	.....	.....	.....	M-407	.45	7/32
1/4	M-608	.45	.....	.....	.....	4	M-408	.45	1/4
9/32	M-609	.45	.....	.....	.....	.....	.....	.....	9/32
5/16	† M-1210	.45	1/8	1/8	.....	5 & 6	† M-810	.45	5/16
11/32	† M-1211	.45	.....	.....	.....	8	.....	.....	11/32
3/8	† M-1212	.45	.....	3/16	.....	10	† M-812	.45	3/8
7/16	† M-1214	.45	.....	1/4	1/4	12 & 1/4	.....	.....	7/16

† 12-Point opening.

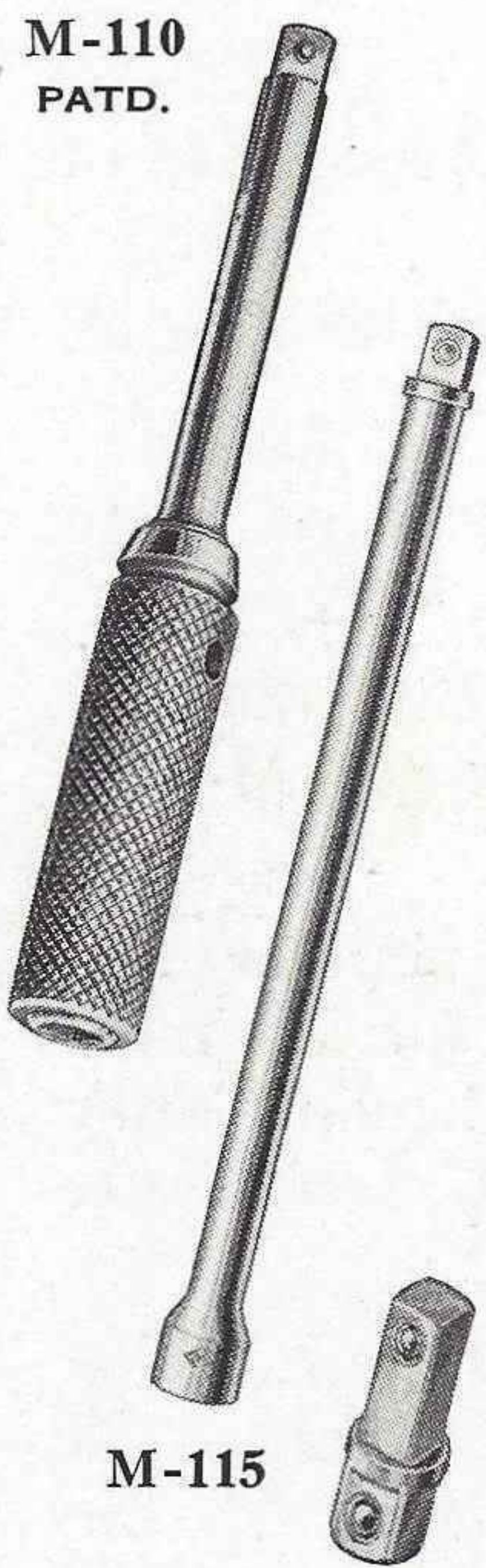
† 8-Point opening.

HANDLES and PARTS

No.	Piece	PRICE
M-20A	Sliding T Handle—4-1/2" long.....	\$1.02
M-42	Flex Handle only—5-1/2" long; flexible head, knurled grip, crosshole for use with Sliding Bar.....	1.40
M-110	Sliding Bar, 1/4" x 4-1/2", for M-42 Extension-Driver has lockable-revolving, knurled handle with 9/32" square drive-opening in end. May be used either as an Extension with handy revolving grip for spinning nuts, or as a Driver with handle locked. A slight turn of the handle locks and unlocks same instantly. 5-1/2" long	.25
M-115	Extension—6" long.....	1.44
M-130	Adapter—9/32" square male and 5/16" hex female. Adapts Sockets with 9/32" square drive-openings to Handles with 5/16" hex drive-plug.	1.08
M-131	Adapter—5/16" hex male and 9/32" square female. Adapts Sockets with 5/16" hex drive-opening to Handles with 9/32" square drive-plug.....	.90
MM-150	Plug Adapter—1" long; 1/4" sq. and 9/32" sq. male.....	.90
		.60

Fully Guaranteed

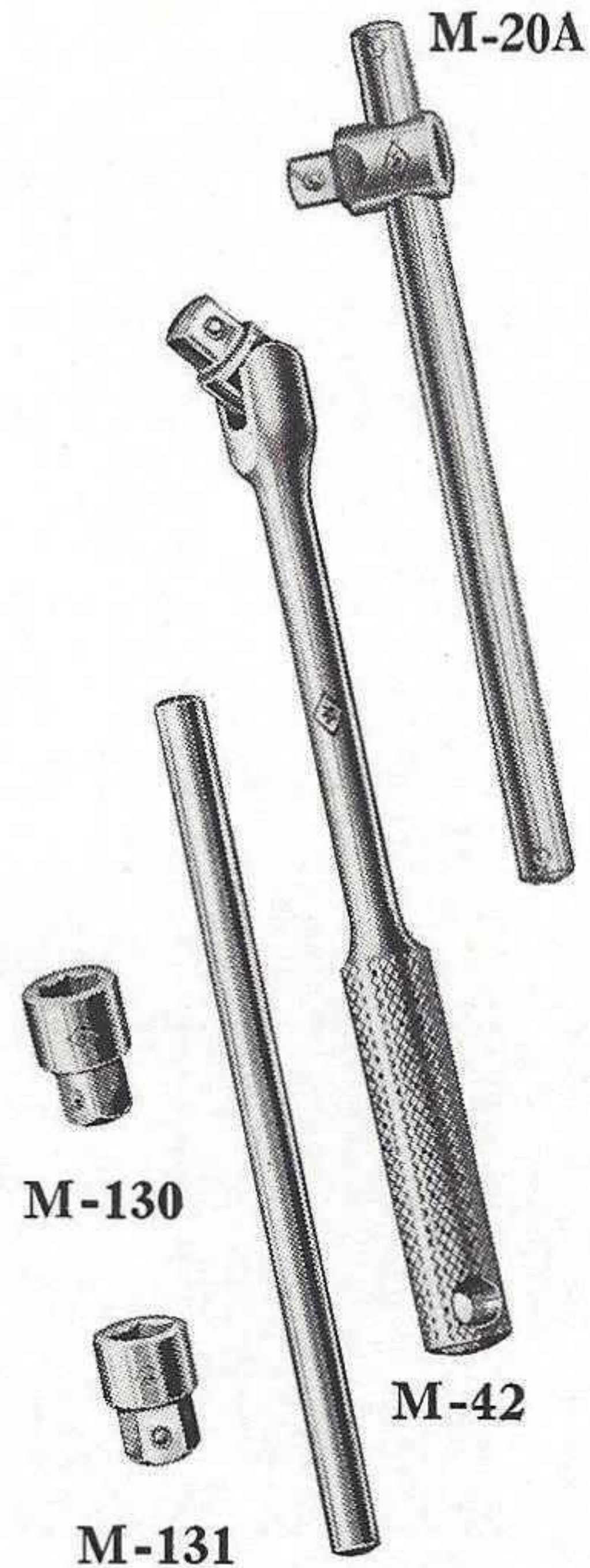
M-110
PATD.



M-115

MM-150

M-20A



M-130

M-131

Sliding
Bar

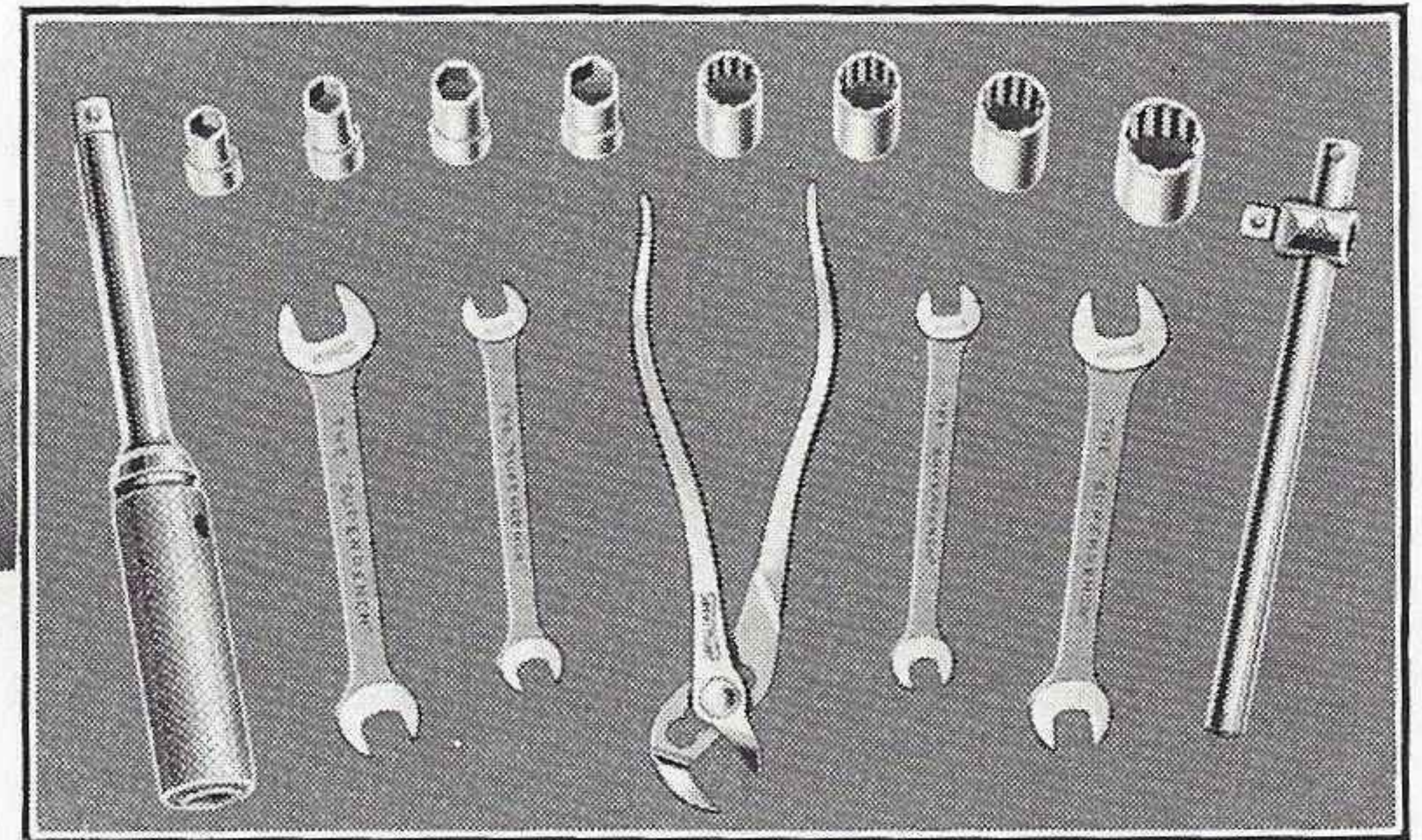
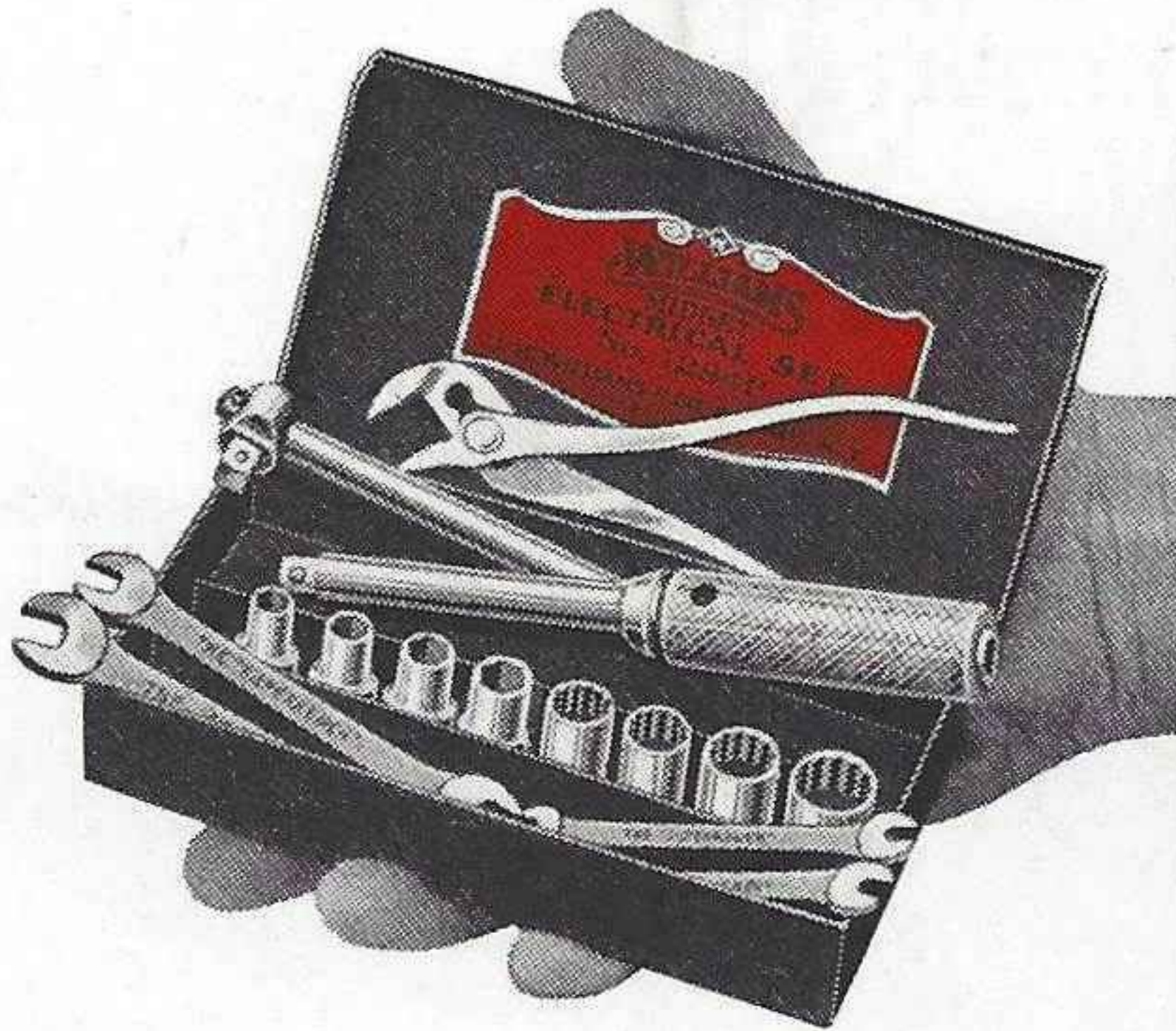
★ REGISTERED TRADE MARK

JUNE 1937

MIDGET WRENCHES (Chrome-plated over Nickel)

COMBINATION ELECTRICAL SET No. 1284P

With 9/32"
Square Drive
Sockets



LIST PRICE

In Strong Steel Case, 5 1/2" x 2 3/4" x 1"
Set 1284P—with "Superplier" 1519.....\$11.64
Set 1284—without "Superplier"..... 9.72
Set 1284P will be furnished,
unless otherwise specified.

A combination of Midget "Superrenches", "Supersockets" and "Superplier" for all delicate adjustments — magnetos, timers, generators, wiring-connections, carburetors, radios, refrigerators, etc. Unequalled in cramped quarters.

Midget "Superrenches" are extremely light and thin, yet amazingly strong. Forged from Chrome-Molybdenum steel, heat-treated, chrome-finished, heads polished.

Midget "Supersockets" have straight walls for work in close corners. All are made of Chrome-Molybdenum steel, heat-treated. Extension-Driver has lockable-revolving grip.

Midget "Superplier" No. 1519, 4-1/2" long, is fully described on page 64.

CONTENTS OF SET NO. 1284P

4 Midget "Superrenches" and "Superplier"			8 Midget "Supersockets" and 2 Handles			
No.	Openings	Length	No.	6-Point Openings	No.	12-Point Openings
1106	13/64 & 7/32	3	M-606	3/16	M-1210	5/16
1107	15/64 & 1/4	3	M-607	7/32	M-1211	11/32
1108	9/32 & 11/32	3 1/2	M-608	1/4	M-1212	3/8
1109	5/16 & 3/8	3 1/2	M-609	9/32	M-1214	7/16
1519	"Superplier"	4 1/2	M-20A	Sliding T Handle, 4 1/2" long. Extension-Driver 5 3/8" long.		
			M-110			

★"SUPERSOCKET" ELECTRICAL SET No. 1268P 9/32" Square Drive

LIST PRICE, Complete

In Strong Steel Case, 5 1/2" x 2 3/4" x 1"
Set 1268P—with "Superplier" 1519.....\$8.88
Set 1268—without "Superplier"..... 6.96

Set 1268P will be furnished, unless otherwise specified.

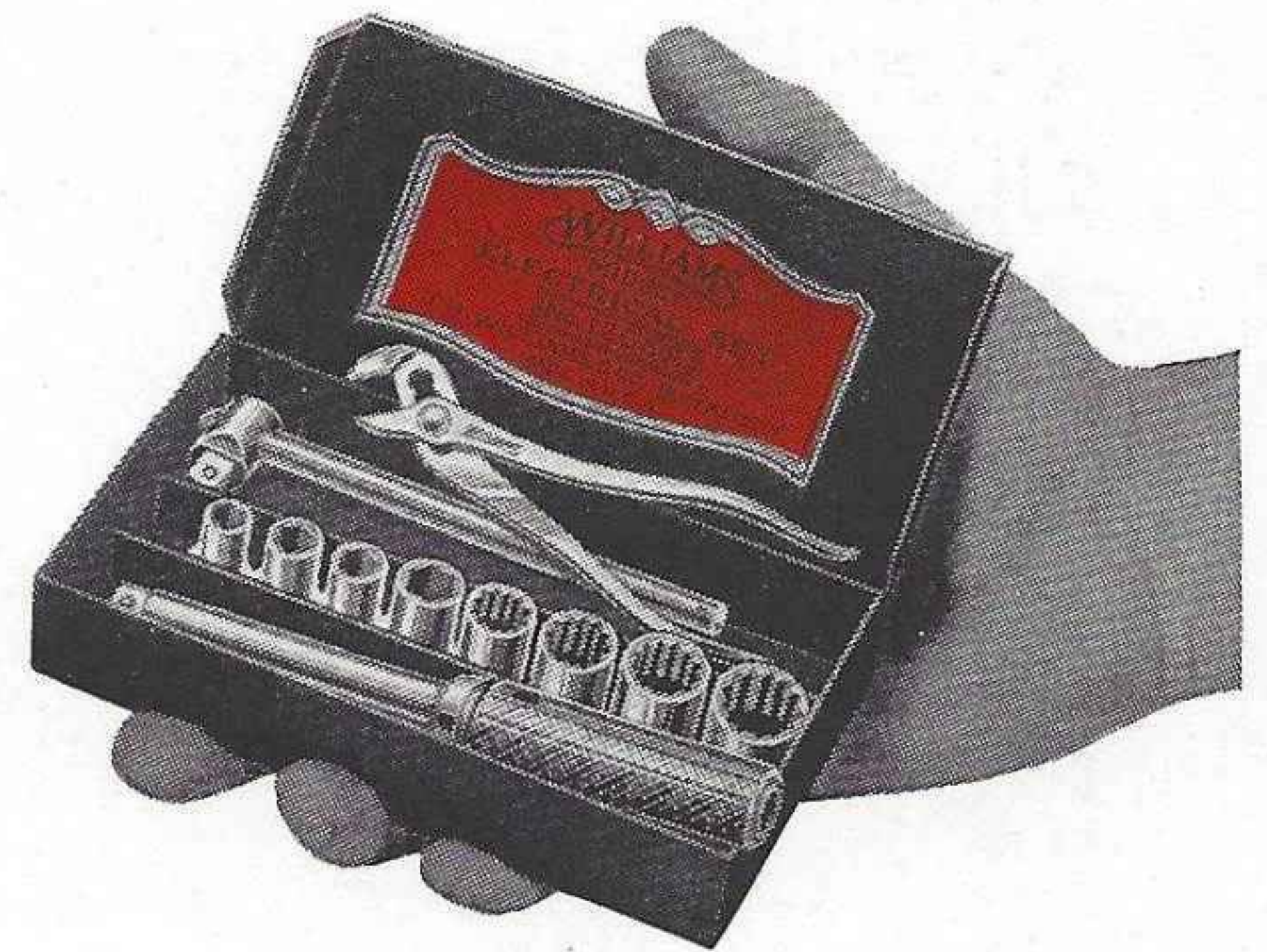
Midget "Supersocket" Wrenches and "Superplier" are especially designed for delicate adjustments on magnetos, timers, generators, wiring-connections, carburetors, radios, refrigerators, etc.

CONTENTS OF SET 1268P

8 Midget "Supersockets"—4 with Hex openings 3/16, 7/32, 1/4 and 9/32"; 4 with 12-point openings 5/16, 11/32, 3/8 and 7/16". Sliding T Handle, 4-1/2" long. Extension-Driver, 5-3/8" long, with handy lockable-revolving grip.

Midget "Superplier" No. 1519, 4-1/2" long, is fully described on page 64.

Fully Guaranteed

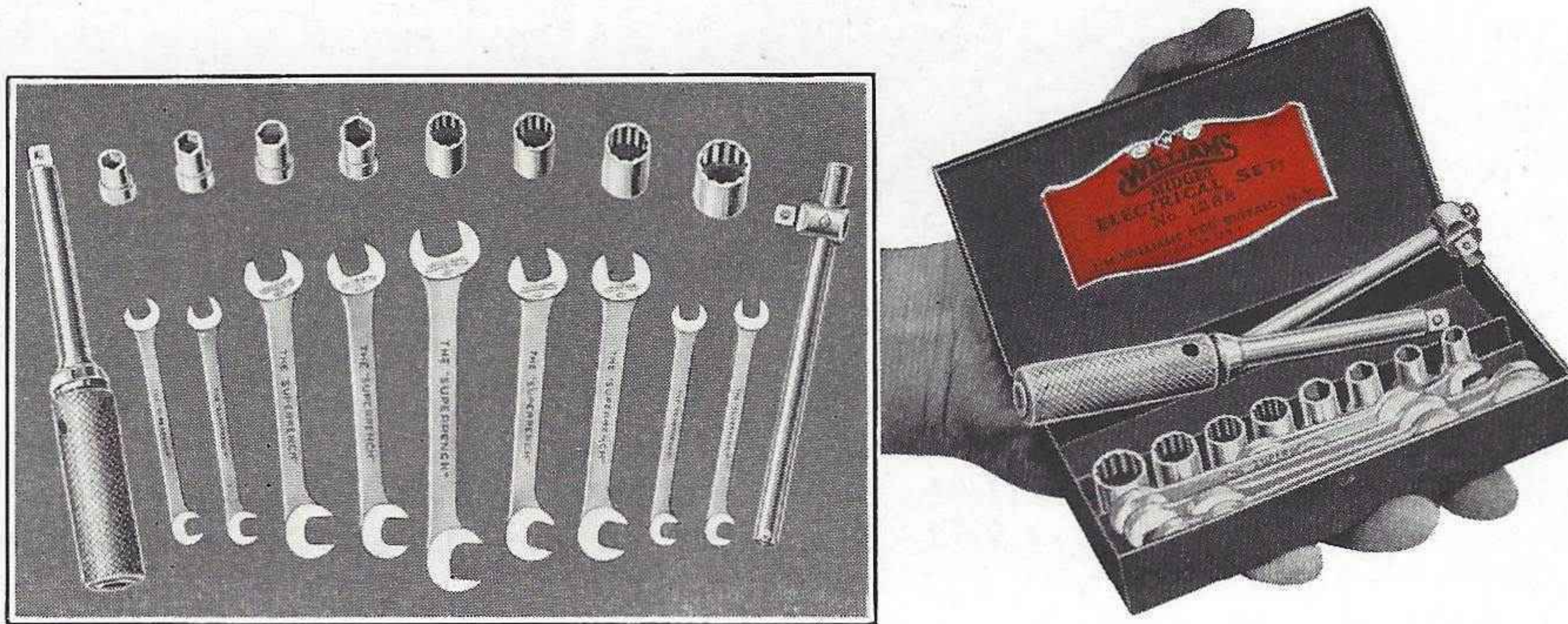


MIDGET WRENCHES

(Chrome-plated over Nickel)

COMBINATION ELECTRICAL SET No. 1288P

With 9/32" Square Drive Sockets



LIST PRICE, Complete—

In Strong Steel Case, 5 1/2 x 2 3/4 x 1"

Set 1288P—with "Superplier" 1519...\$15.26

Set 1288—without "Superplier"..... 13.34

Set 1288P will be furnished, unless otherwise specified

A handful of helpfulness on those fussy, troublesome little jobs ordinary wrenches can't handle.

Midget "Superrenches" have two openings of the same size in each wrench. *But at different angles; where one head can't operate the other will.* Drop-forged from Chrome-Molybdenum steel, heat-treated, chrome-finished, heads polished.

Midget "Supersockets" have straight walls for work in close corners. All are made of Chrome-Molybdenum steel, heat-treated. Sockets and Parts full chrome-finish.

Midget "Superplier" No. 1519, 4 1/2" long, is fully described on page 64.

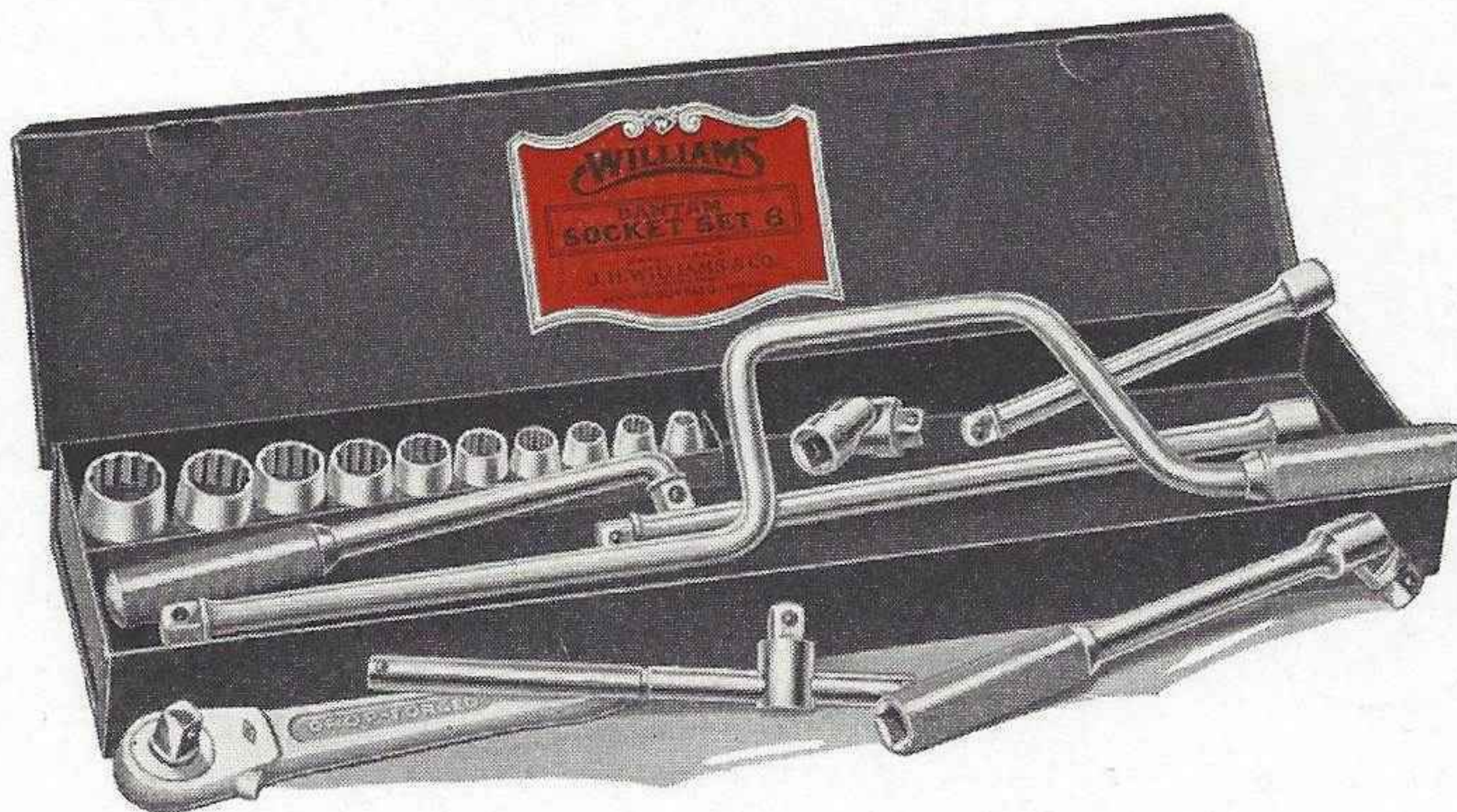
CONTENTS OF SET 1288P

9 Midget "Superrenches"			8 Midget "Supersockets", 2 Handles, "Superplier"			
No.	Openings	Length	No.	6-Point Openings	No.	12-Point Openings
1113	13/64 & 13/64	3	M-606	3/16	M-1210	5/16
1114	7/32 & 7/32	3	M-607	7/32	M-1211	11/32
1115	15/64 & 15/64	3	M-608	1/4	M-1212	3/8
1116	1/4 & 1/4	3	M-609	9/32	M-1214	7/16
1118	9/32 & 9/32	3 3/4	M-20A M-110 1519			
1120	5/16 & 5/16	3 3/4				
1122	11/32 & 11/32	3 3/4				
1124	3/8 & 3/8	3 3/4				
1128	7/16 & 7/16	4 1/2				
			Sliding T Handle, 4 1/2" long. Extension-Driver, 5 1/2" long.			
			"Superplier", 4 1/2" long.			

Fully Guaranteed

★“SUPERSOCKET” WRENCHES
(Chrome-plated over Nickel)

BANTAM PATTERN—3/8" SQUARE DRIVE
AVIATION SET No. 6



In Strong Steel Case, 17 x 4 x 1 1/2"

SET No. 6—LIST PRICE, Complete—\$26.76
19 Pieces—10 Sockets and 9 Attachments
Total Weight, 6 1/2 lbs.

SET No. 6-A
LIST PRICE—\$22.98

17 Pieces—

10 Sockets and 7 Attachments

Same Assortment as Set No. 6,
but without Nos. B-40 and B-108.

SET No. 5
LIST PRICE—\$23.52

15 Pieces—

7 Sockets and 8 Attachments

Same Assortment as Set No. 6,
but with 7 instead of 10 Sockets
and without B-108.

SET No. 5-A
LIST PRICE—\$20.82

14 Pieces—

7 Sockets and 7 Attachments

Same Assortment as Set 6-A,
but with 7 instead of 10 Sockets.

Set No. 6 will be furnished, unless otherwise specified

Sets Nos. 6 and 6A are especially designed for aviation use—practical, efficient assortments that provide most comprehensive service. Thin-wall “Supersockets” and long, slim drivers work easily in close quarters. See table below for details.

Sets Nos. 5 and 5A supply convenient, economical assortments of “Bantam” Sockets and Parts for general small work. A minimum number of tools provides maximum performance.

CONTENTS OF SETS

12-POINT SOCKETS					HANDLES and PARTS		
Size Opening	In Sets Nos. 6 & 6A		In Sets Nos. 5 & 5A		No.	Piece	PRICE
	Socket No.	PRICE	Socket No.	PRICE			
1/4	†B- 608	\$.72	.....	.....		In Sets Nos. 6 and 5	
5/16	B-1210	.72	.....	.....	F-15	Speeder—16-1/2" long; knurled, revolving grip.....	\$2.10
11/32	B-1211	.72	.....	.....	B-20A	Sliding T Handle—6-1/2" long	1.35
3/8	B-1212	.72	B-1212	\$.72	B-30	Offset Handle—7-3/4" long; knurled grip.....	1.50
7/16	B-1214	.72	B-1214	.72	†B-40	Flex Handle—8"; flexible head	2.70
1/2	B-1216	.72	B-1216	.72	B-50	Ratchet—6-1/2" long.....	3.60
9/16	B-1218	.72	B-1218	.72	*†B-108	Extension Bar—3" long.....	1.08
5/8	B-1220	.72	B-1220	.72	B-110	Extension Bar—5-1/2" long...	1.08
11/16	B-1222	.84	B-1222	.84	B-115	Extension Bar—10-1/2" long..	1.20
3/4	B-1224	.84	B-1224	.84	B-140	Universal Joint.....	2.46

† Single Hex opening.

† Nos. B-40 and B-108 omitted from Sets 6A and 5A.

* No. B-108 omitted from Set 5.

For Bantam Sockets and Parts, see pages 76 and 77

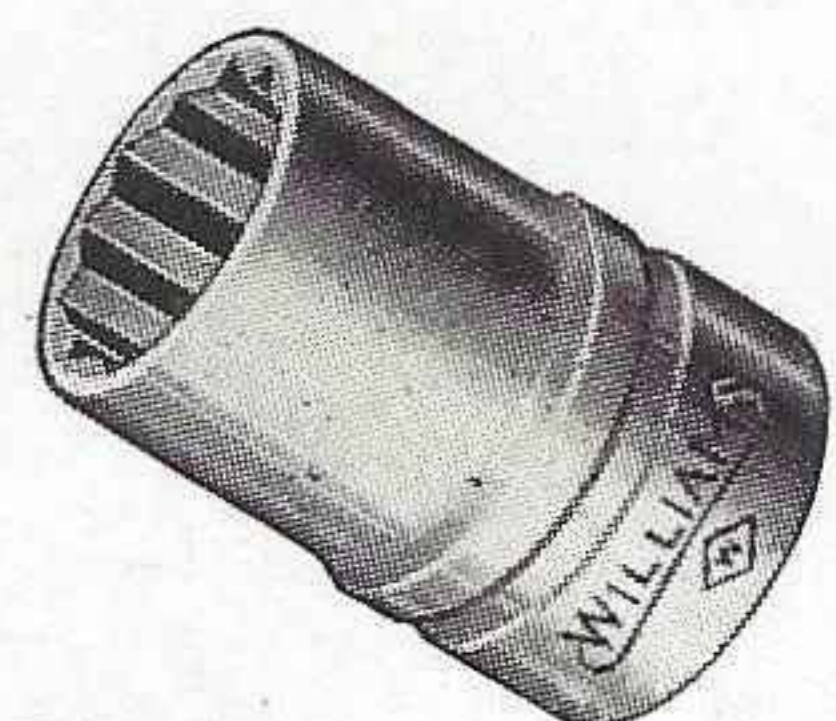
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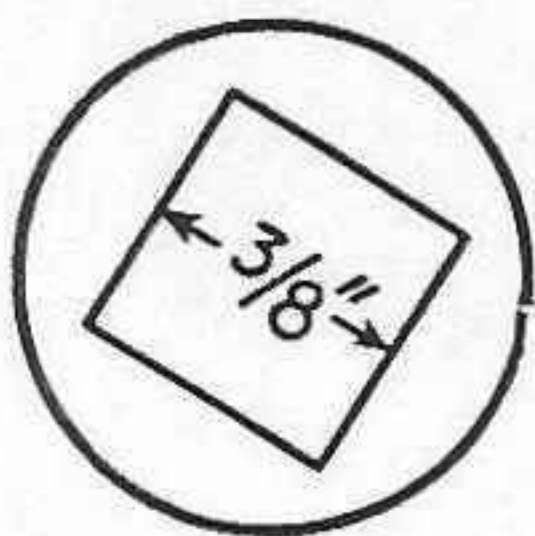
JUNE 1937

♦ **“SUPERSOCKET” WRENCHES**
(Chrome-plated over Nickel)

BANTAM PATTERN—3/8" SQUARE DRIVE



With
12-Point
Opening



SOCKETS

Williams' Bantam "Supersockets" with thin, straight walls get in and work in close quarters. Their 12-point openings rotate nuts completely where the handle can be swung only 30°. Very useful in refrigeration service.

Made from a superior grade of high tensile steel—Chrome-Alloy—and heat-treated in electric furnaces for maximum toughness and strength.

All Sockets packed 6 in a box.

Nominal Opening	12-Point Straight Wall Sockets		For U. S. Std. Hex Nut	For Hex Cap Screw	S.A.E. Std. Hex Nut	American Standard Hex Nuts			Nominal Opening
	No.	PRICE				Regular and Jam	Light and Castle.	Machine Screw Nuts	
1/4	† B- 608	\$.72	.....	.....	.....	.....	.....	No. 4	1/4
5/16	B-1210	.72	1/8	1/8	.....	.....	.....	5 & 6	5/16
11/32	B-1211	.72	.....	.....	.....	.....	.....	8	11/32
3/8	B-1212	.72	.....	3/16	.....	.....	.....	10	3/8
7/16	B-1214	.72	.....	1/4	1/4	1/4	1/4	12 & 1/4	7/16
1/2	B-1216	.72	1/4	5/16	5/16	.....	5/16	.....	1/2
9/16	B-1218	.72	.....	3/8	3/8	5/16	3/8	5/16	9/16
5/8	B-1220	.72	.....	7/16	7/16	3/8	7/16	3/8	5/8
11/16	B-1222	.84	3/8	.....	.....	.....	.....	.....	11/16
3/4	B-1224	.84	.....	1/2	1/2	7/16	1/2	.....	3/4

† Single Hex opening.



REVERSIBLE “SUPERRATCHET” No. B-51

Williams' Bantam "Superratchets" are truly and instantly reversible. Just snap the shift-lever to ON, or OFF. A flip of the thumb does it.

"Superratchets" are stronger, easier to handle, more efficient. Bantam B-51, 6-1/2" long, can be used to advantage with ANY detachable socket, or part having 3/8" square drive opening.

Simple, rugged design—no delicate springs or fragile construction. Every part made of alloy and high-tensile steel, accurately machined and scientifically heat-treated.

For extra strength and longer life, the Ratchet-gear has **DOUBLE-TOOTH** engagement with the Dog. Also 24 teeth against the usual 14, or 16 teeth in other geared ratchets; operates in one-third less space.

Bantam is listed on opposite page.

Standard "Superratchet" S-51, 1/2" sq. drive, page 79.

Fully Guaranteed

♦ REGISTERED TRADE MARK

★ "SUPERSOCKET" WRENCHES
 (Chrome-plated over Nickel)

BANTAM PATTERN

3/8" Square Drive

HANDLES and PARTS



No.	PIECE	PRICE	No.
F-15	Speeder—16-1/2" long; Knurled revolving grip.....	\$2.10	F-15
B-20A	Sliding T Handle—6-1/2" long.....	1.35	B-20A
B-30	Offset Handle—7-3/4" long; Knurled grip.....	1.50	B-30
B-40	Flex Handle—8" long; flexible head. Knurled grip with 3/8" square drive hole in end—may be used as Extension.....	2.70	B-40
B-42	Flex Handle—8" long; flexible head, knurled grip; crosshole for Sliding Bar Sliding Bar, 5/16" rd. x 6", for B-42.....	2.70	B-42
B-50	Drop-Forged Ratchet—6-1/2" long; Complete with Plug-Connector.....	.40	B-50
B-50A	Ratchet—Same as B-50 above, but with 1/4" square drive-opening in ratchet wheel and 1/4" square hole near end of handle, for Refrigeration Service. Without Plug-Connector.....	3.60	B-50A
B-50B	Ratchet—Same as B-50, but with 5/16" square drive-opening in ratchet wheel. No Plug-Connector.....	3.60	B-50B
B-51	Reversible Ratchet—6-1/2" long. Turning shift-lever reverses action instantly—See full description on opposite page.....	3.30	B-51
B-51A	Reversible Ratchet for Refrigeration Service—same as B-51, but has both 3/8" sq. male and 1/4" sq. female ratchet drive. Also, has 3/16 and 1/4" square drive holes in handle end.....	4.50	B-51A
B-108	Extension Bar—3" long.....	4.50	B-108
B-110	Extension Bar—5-1/2" long.....	1.08	B-110
B-115	Extension Bar—10-1/2" long.....	1.08	B-115
BS-130	Adapter—3/8" square female and 1/2" square male. See page 87.....	1.20	BS-130
BS-131	Adapter—3/8" square male and 1/2" square female. See page 87.....	1.02	BS-131
B-140	Universal Joint.....	1.02	B-140
		2.46	

For Bantam Sets see page 75

Fully Guaranteed

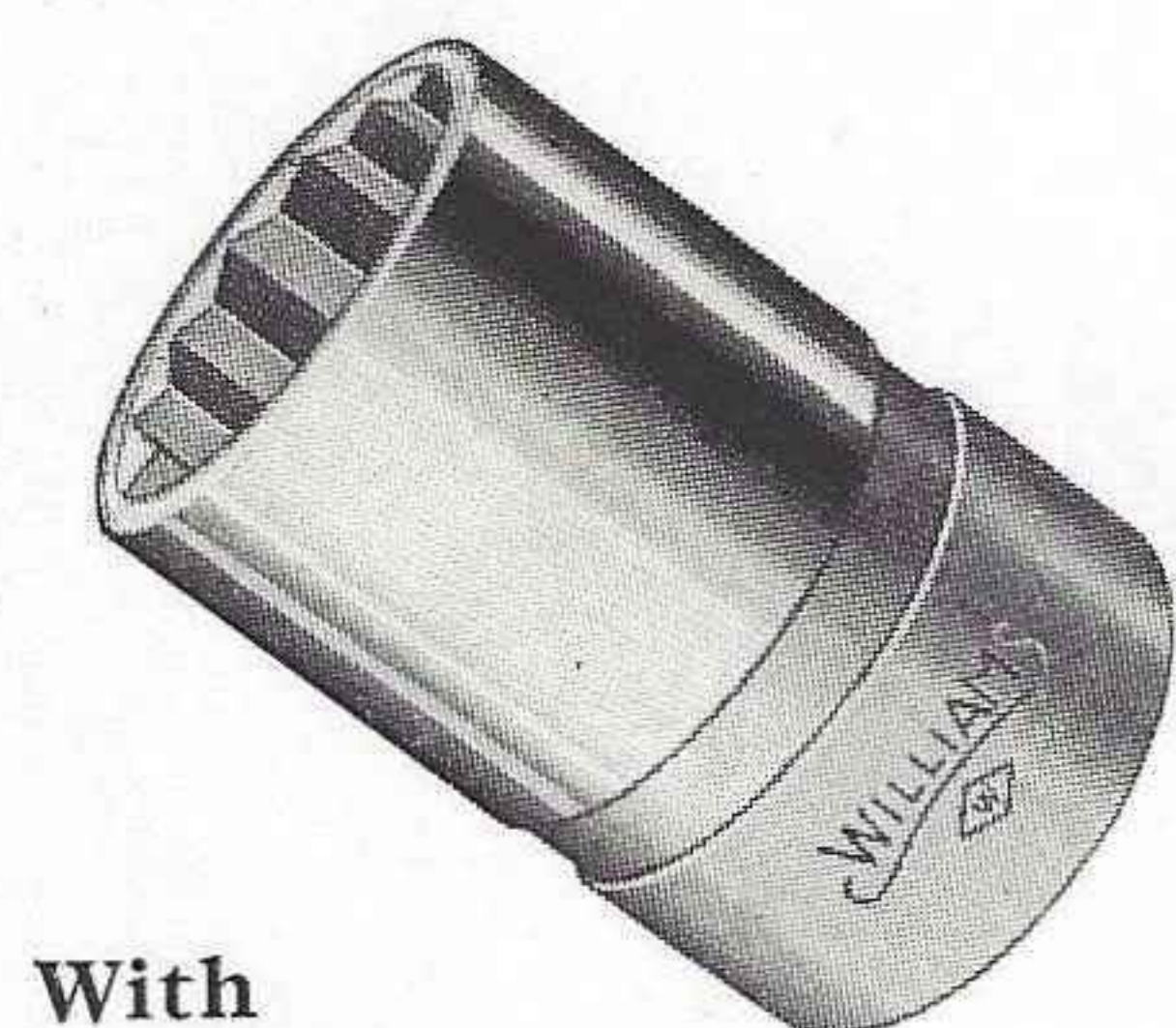
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JUNE 1937

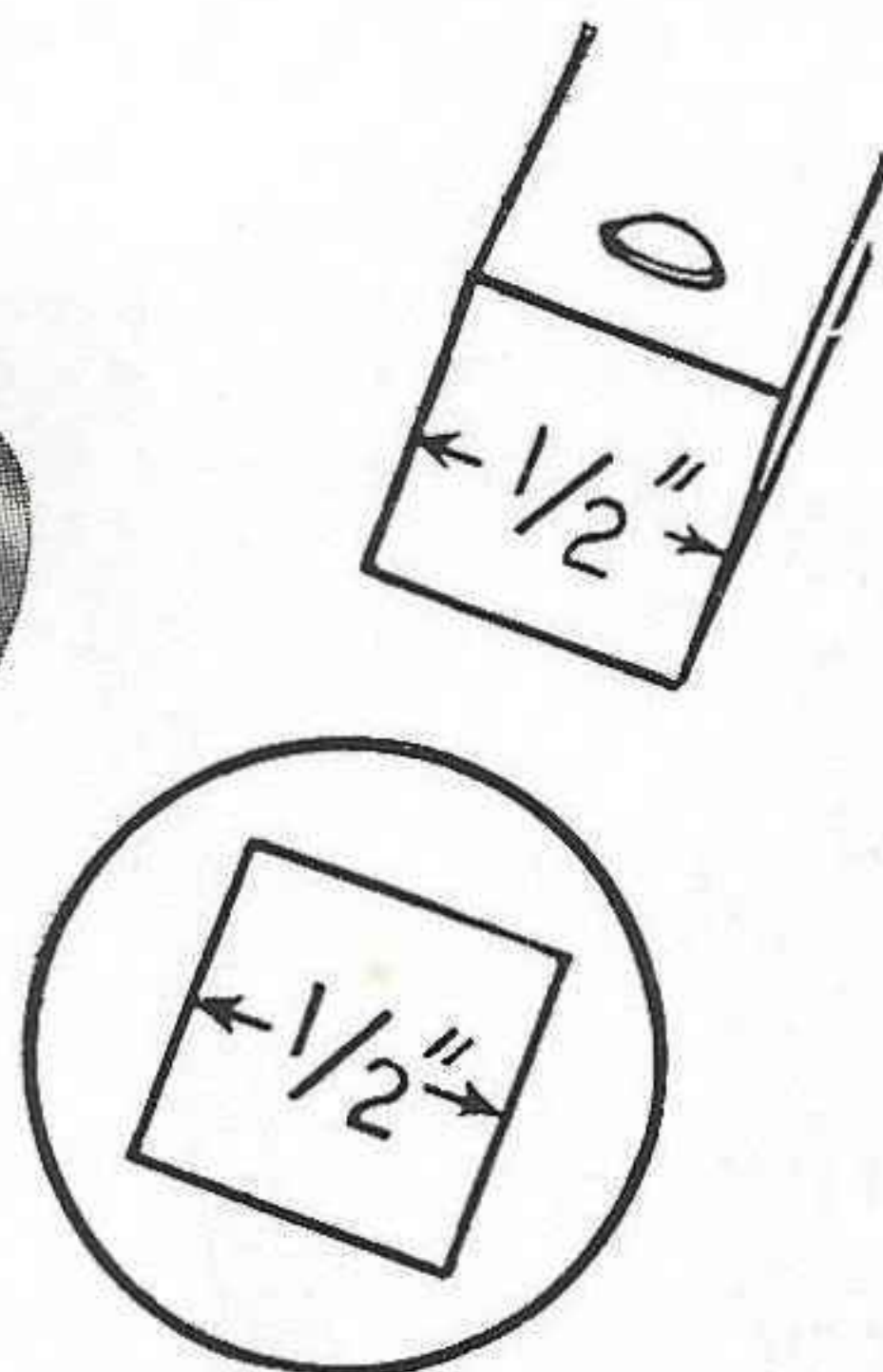
★ "SUPERSOCKET" WRENCHES

(Chrome-plated over Nickel)

STANDARD PATTERN



With
12-point
and Square
Openings



1/2" SQUARE DRIVE

SOCKETS

Williams' Standard Sockets are furnished with 12-point and Square openings as listed below. Thin walls for work where clearance is limited.

Made from superior high tensile steel—Chrome-Alloy—and heat-treated in electric furnaces. All sockets packed 6 in a box.

To use "Standard" Sockets (1/2" square female drive) with "Bantam" Handles (3/8" square male drive), use Adapter BS-130, pages 77 and 87.

Nominal Opening	12-POINT OPENINGS FOR HEX NUTS							SQUARE OPENINGS		
	Straight Wall 12-point Sockets	No.	PRICE	U.S. Std. Nut; Size Bolt	Hex. Cap Screw Size Screw	S.A.E. Std. Nut; Size Bolt	Amer. Std. Nuts Regular & Jam; Size Bolt	Light & Castle; Size Bolt	Square Sockets	Nominal Opening
7/16	ST-1214		\$.72	.....	1/4	1/4	1/4	1/4	S-410	5/16
1/2	ST-1216		.72	1/4	5/16	5/16	.....	5/16	S-412	3/8
9/16	ST-1218		.72	.....	3/8	3/8	5/16	3/8	S-414	7/16
**9/16	SF-1218		1.00	.....	.....	.....	.....	.....	.....	.....
19/32	ST-1219		.72	5/16	.....	.....	.....	.....	S-416	1/2
5/8	ST-1220		.72	.....	7/16	7/16	3/8	7/16	S-418	9/16
*21/32	ST-1221		.72	.....	.....	.....	.....	.....	†S-0418	†9/16
11/16	ST-1222		.84	3/8	.....	.....	.....	.....	S-420	5/8
3/4	ST-1224		.90	.....	1/2	1/2	7/16	1/2	.....	.....
25/32	ST-1225		.90	7/16	.....	.....	.....	.....	S-422	11/16
13/16	ST-1226		.90	.....	9/16	.....	1/2	.....	S-424	3/4
7/8	ST-1228		.90	1/2	5/8	9/16	9/16	9/16	.....	.....
15/16	ST-1230		1.08	.....	.....	.....	.....	.....	S-428	7/8
31/32	ST-1231		1.08	9/16	.....	.....	.....	.....	.....	.....
1	ST-1232		1.08	.....	3/4	.....	5/8	.....	.....	.....
1-1/16	†S-1234		1.20	5/8	.....	3/4	.....	3/4	.....	.....
1-1/8	†S-1236		1.32	.....	7/8	.....	3/4	.....	S-432	1
1-3/16	†S-1238		1.38	.....	.....	.....	.....	.....	.....	.....
1-1/4	†S-1240		1.44	3/4	.....	7/8	.....	7/8	.....	.....

*For Ford "A" Connecting Rods.

**For ALL Ford "V-8" 85 H.P. Connecting Rods

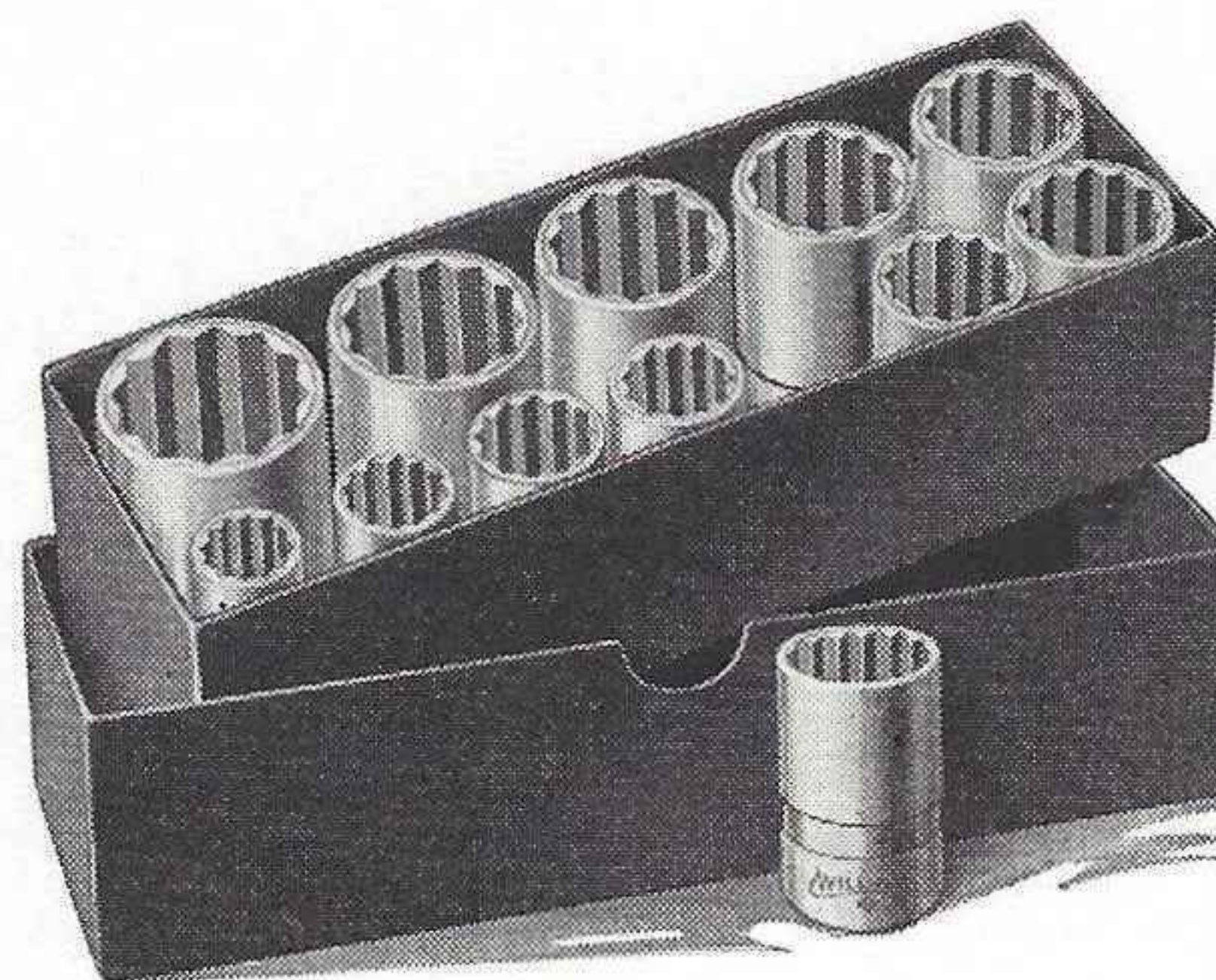
† Sockets with taper nose.

‡ Special Socket for ALL Ford "V-8" 85 H.P. Main Bearing bolt heads.

STRAIGHT WALL SOCKET SET No. 12

LIST PRICE—\$10.20
In Cardboard Box

Twelve Straight Wall Sockets with 12-Point openings 7/16 to 1"; one each, Nos. ST-1214, ST-1216, ST-1218, ST-1219, ST-1220, ST-1222, ST-1224, ST-1225, ST-1226, ST-1228, ST-1230, ST-1232, listed above.



Fully Guaranteed

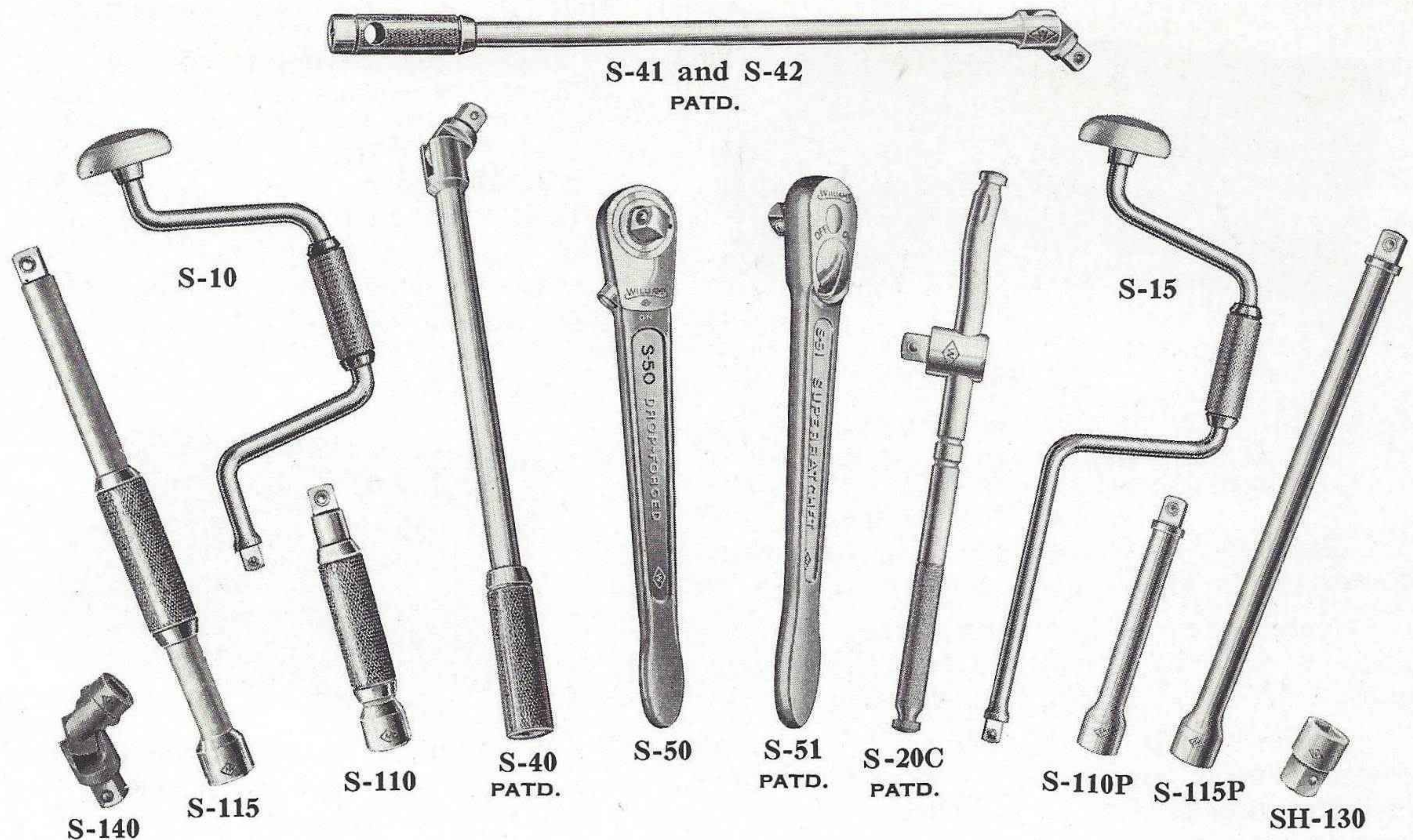
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JUNE 1937

★ “SUPERSOCKET” WRENCHES
(Chrome-plated over Nickel)

STANDARD PATTERN—1/2" SQUARE DRIVE

HANDLES and PARTS



No.	PIECE	PRICE	No.
S-10	Speeder—12" long, with knurled revolving grips.....	\$2.70	S-10
S-15	Speeder—17-1/2" long, with knurled revolving grips.....	2.70	S-15
S-20A	Sliding T Handle—11" long. Similar to S-20C, but with straight handle...	2.10	S-20A
S-20C	Offset Sliding T Handle—11-1/2". Unusually efficient—with 12-point Socket, rotates hex nut where handle swings only 15°.....	2.25	S-20C
S-40	Flex Handle—12" long; flexible head. Knurled grip with 1/2" square drive hole in end—may be used as Extension.....	3.90	S-40
S-41	Flex Handle—17"—flexible head. Knurled grip—1/2" square drive hole in end for use as Extension; 1/2" round hole for Bar.....	4.50	S-41
S-42	Flex Handle only—14"—flexible head, knurled grip, cross hole for use with Sliding Bar.....	3.90	S-42
	Sliding Bar, 7/16" x 9", for S-42.....	.60	
S-50	Ratchet—10" long, complete with Locked-in Plug Connector.....	4.50	S-50
S-51	Reversible Ratchet—10-1/2" long. 24 teeth in Ratchet-gear instead of usual 16. Turning shift-lever reverses action instantly. See full description, page 76.....	6.75	S-51
S-110	Extension Bar—5-1/2" long, with knurled revolving grip.....	1.80	S-110
S-110P	Extension Bar—5-1/2" long.....	1.20	S-110P
S-115	Extension Bar—10-1/2" long, with knurled revolving grip.....	2.10	S-115
S-115P	Extension Bar—10-1/2" long.....	1.65	S-115P
S-140	Universal Joint.....	2.70	S-140
SH-130	Adapter—1/2" square female and 3/4" square male.....	1.20	SH-130

Fully Guaranteed

★ REGISTERED TRADE MARK

★“SUPERSOCKET” WRENCHES
(Chrome-plated over Nickel)

STANDARD PATTERN—1/2" SQUARE DRIVE

SETS Nos. 21 and 21-R with Straight Wall Sockets



SET No. 21 with FLEX HANDLE

LIST PRICE, Complete—\$14.70

11 Pieces—10 Sockets and 1 Flex Handle
In Strong Steel Case, 17 x 2-5/8 x 1-3/4"
Total Weight, 6-1/4 lbs.

Flex Handle S-41, 17" long, with flexible head for use at practically any angle desired. Knurled grip with 1/2" square drive hole in end—may be used as Extension; round hole for 1/2" Bar.

SET No. 21-R with RATCHET

LIST PRICE, Complete—\$14.22

11 Pieces—10 Sockets and 1 Ratchet
In Strong Steel Case, 11-1/2 x 2-5/8 x 1-3/4"
Total Weight, 4-1/2 lbs.

Ratchet S-50 is complete with Locked-in Plug-Connector to fit 1/2" square drive hole in Sockets.

†Note:—Reversible “Superratchet” No. S-51 (see page 79) may be substituted for S-50 in Sets 21-R and 21 1/2-R, at \$2.25, List, extra.



These handy and compact Sets supply at minimum price, assortments that cover a wide variety of work. Convenient, efficient and economical, providing an excellent opportunity to the mechanic to start his Socket Set. Additions to build up a complete assortment can be made at any time. Packed in cartons containing 6 Sets.

SET No. 21-1/2

LIST PRICE, Complete—\$16.50
12 Pieces

Same assortment as Set No. 21, but includes Extension Bar S-110; see illustration below.



S-110

SET No. 21-1/2R

LIST PRICE, Complete—\$16.02
12 Pieces

Same assortment as Set No. 21R, but includes Extension Bar S-110; see illustration above.

CONTENTS OF SETS

10 TWELVE-POINT SOCKETS

No.	Nom- inal Open- ing	For U. S. Std. Nut; Size Bolt	For Hex Hd. Cap Screw, Size Screw	For S. A. E. Std. Nut	Amer. Std. Nuts, Regl. & Jam	PRICE, Each
ST-1214	7/16	....	1/4	1/4	1/4	\$.72
ST-1216	1/2	1/4	5/16	5/16	....	.72
ST-1218	9/16	....	3/8	3/8	5/16	.72
ST-1219	19/32	5/16	....	....	....	.72
ST-1220	5/8	....	7/16	7/16	3/8	.72
ST-1222	11/16	3/8	....	....	....	.84
ST-1224	3/4	....	1/2	1/2	7/16	.90
ST-1225	25/32	7/16	....	....	....	.90
ST-1228	7/8	1/2	5/8	9/16	9/16	.90
ST-1232	1	....	3/4	11/16	5/8	1.08
S-41	Flex Handle, 17" long (in Set No. 21)					4.50
†S-50	Ratchet, 10" long (in Set No. 21-R)					4.50

Set No. 21 will be furnished, unless otherwise specified.

Fully Guaranteed

★ REGISTERED TRADE MARK

★ “SUPERSOCKET” WRENCHES

(Chrome-plated over Nickel)

STANDARD PATTERN—1/2" SQUARE DRIVE

SET No. D20 For MECHANICS



In Strong Steel Case

20 x 6 x 3-3/4

Total Weight, 22 1/4 lbs.

SET No. D20—LIST PRICE, Complete—\$39.96

21 PIECES—13 Twelve-point Sockets and 8 Accessories

SET No. D20B—LIST PRICE, Complete—\$35.46

Same assortment as Set No. D20, but without Flex Handle S-41

Set No. D20 will be furnished, unless otherwise specified

The practical mechanic will appreciate this convenient, efficient Set. It includes all the Sockets and Accessories required for the general run of work and provides comprehensive service in a minimum number of tools. The great variety of Handles and Parts offers a wide range of selection in making up desirable Socket Wrench combinations.

CONTENTS OF SET

12-POINT SOCKETS			HANDLES AND PARTS		
Nominal Opening	In Both Sets		No.	In Set No. D20	PRICE
	Stgt. Wall Socket No.	PRICE		Piece	
7/16	ST-1214	\$.72	S-10	Speeder—12"—with Revolving Grips.....	\$2.70
1/2	ST-1216	.72	S-15	Speeder—17-1/2"—with Revolving Grips.....	2.70
9/16	ST-1218	.72	S-20C	Offset Sliding T Handle—11-1/2" long.....	2.25
19/32	ST-1219	.72	S-41	Flex Handle—17" long.....	4.50
5/8	ST-1220	.72	†S-50	Ratchet—10"—with Locked-in Plug-Connector.....	4.50
11/16	ST-1222	.84	S-110	Extension—5-1/2"— with Revolving Grip.....	1.80
3/4	ST-1224	.90	S-115	Extension—10-1/2"— with Revolving Grip.....	2.10
25/32	ST-1225	.90	S-140	Universal Joint.....	2.70
13/16	ST-1226	.90	NOTE: Flex Handle S-41 is omitted from Set D 20-B.		
7/8	ST-1228	.90			
15/16	ST-1230	1.08			
31/32	ST-1231	1.08			
1	ST-1232	1.08	†S-51 Reversible “Superratchet” (page 79) may be substituted for S-50 at \$2.25 List, extra.		

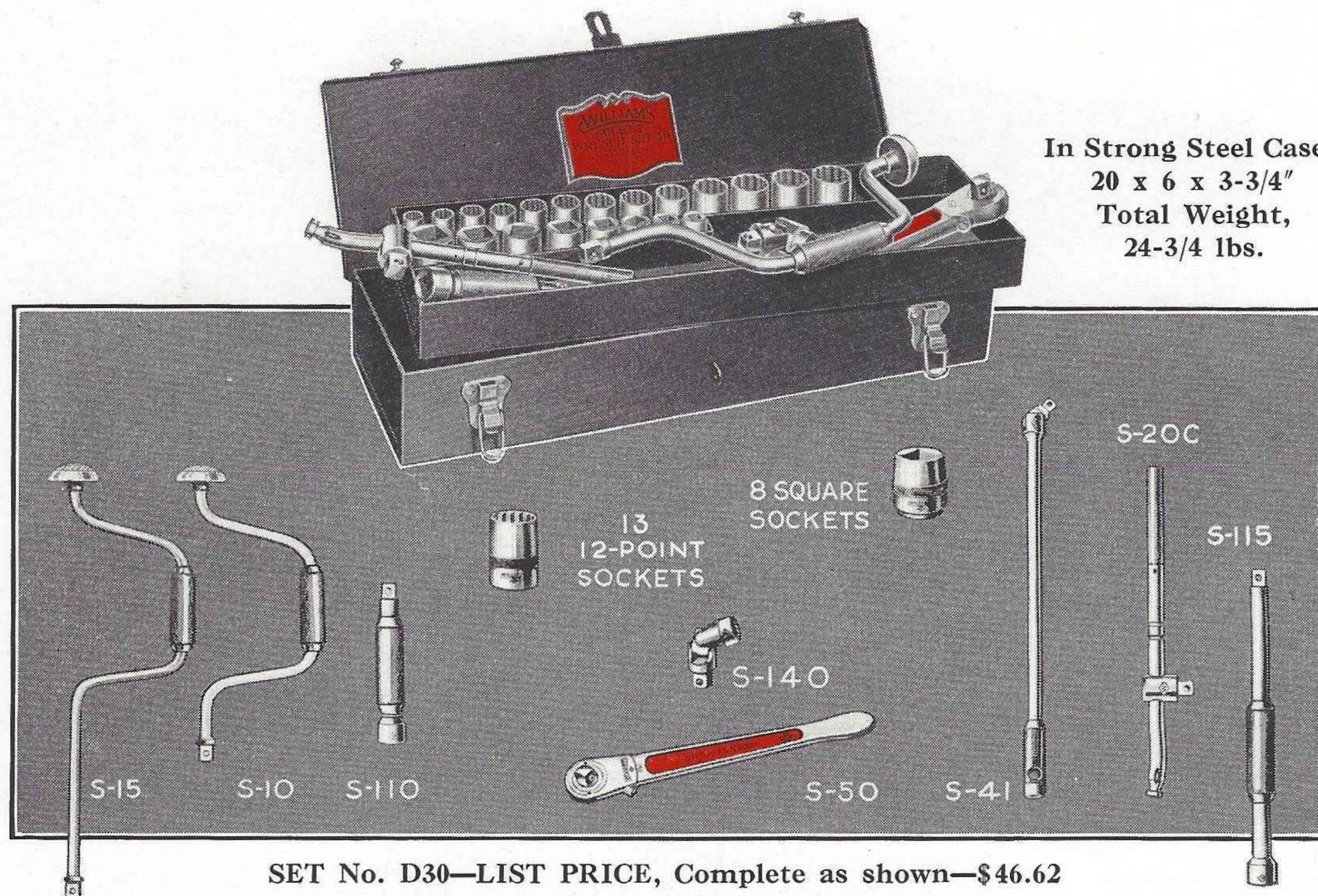
Fully Guaranteed

★ REGISTERED TRADE MARK

SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS
SUPERIOR DROP-FORGED TOOLS

★ "SUPERSOCKET" WRENCHES
 (Chrome-plated over Nickel)

STANDARD PATTERN—1/2" SQUARE DRIVE
 SET NO. D30



SET No. D30—LIST PRICE, Complete as shown—\$46.62
 29 Pieces—21 Sockets and 8 Accessories

This Set contains the same Handles and Parts as Set No. D20, listed on page 81, but includes a more complete assortment of Sockets. Thirteen thin, straight wall "Super-sockets", with 12-point openings 7/16 to 1", cover popular sizes of U. S., S. A. E. and American Std. nuts and cap screws. Eight Square Sockets for all set screws, 3/8 to 7/8". An efficient, comprehensive assortment for general, all-around work.

CONTENTS OF SET

HEX and SQUARE SOCKETS					HANDLES and PARTS		
Size Opening	12-Point Sockets		Square Sockets		No.	Piece	PRICE, Each
	No.	PRICE	No.	PRICE			
3/8	.....	.....	S-412	\$.72	S-10	Speeder—12" Long.....	\$2.70
7/16	ST-1214	\$.72	S-414	.72	S-15	Speeder—17-1/2" Long.....	2.70
1/2	ST-1216	.72	S-416	.72	S-20C	Offset Sliding T Handle-11-1/2"	2.25
9/16	ST-1218	.72	S-418	.72	S-41	Flex Handle—17" Long.....	4.50
19/32	ST-1219	.72	.....	.....	†S-50	Ratchet, Complete—10" Long.	4.50
5/8	ST-1220	.72	S-420	.72	S-110	Extension—5-1/2" Long.....	1.80
11/16	ST-1222	.84	S-422	.84	S-115	Extension—10-1/2" Long.....	2.10
3/4	ST-1224	.90	S-424	.90	S-140	Universal Joint.....	2.70
25/32	ST-1225	.90	.....	.....	
13/16	ST-1226	.90	.....	.....	
7/8	ST-1228	.90	S-428	.90			
15/16	ST-1230	1.08	.....	.....	
31/32	ST-1231	1.08	.....	.....	
1	ST-1232	1.08	.....	.....	

† S-51 Reversible "Superratchet" (page 79) may be substituted for S-50 at \$2.25 List, extra.

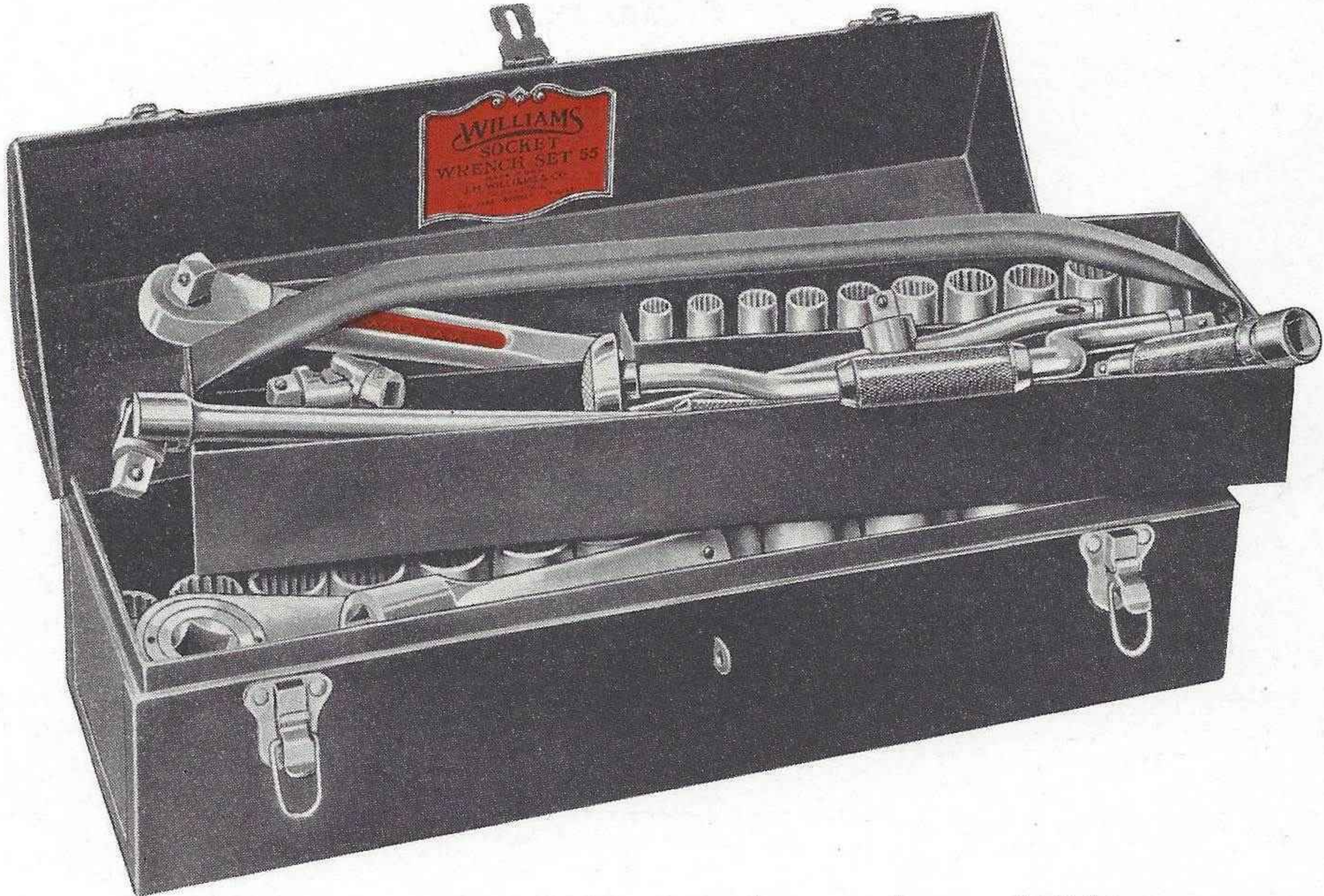
★ REGISTERED TRADE MARK

Fully Guaranteed

✦ “SUPERSOCKET” WRENCHES

(Chrome-plated over Nickel)

MASTER MECHANICS’ SET No. 55



SET No. 55—LIST PRICE, Complete as shown—\$85.62

34 Pieces—21 Sockets and 13 Accessories

In Strong Steel Case, 20-1/2 x 6-3/4 x 6-3/4"—Total Weight, 46 lbs.

SET No. 55-A—LIST PRICE—\$81.12

Same Assortment as set 55, but without Flex Handle S-41

Set No. 55 will be furnished, unless otherwise specified

This combination of “Standard” (1/2" square drive) and “Heavy Duty” (3/4" square drive) Socket Wrenches is especially handy for millwrights. Extremely useful for the set-up and maintenance of machinery. The case is particularly convenient for mechanics.

12-POINT SOCKETS						HANDLES and PARTS		
Standard—see page 78			Heavy Duty—see page 84			No.	Piece	PRICE
Open- ing	No.	PRICE	Open- ing	No.	PRICE	STANDARD PATTERN <i>See illustrations, page 79</i>		
7/16	ST-1214	\$.72	1 1/16	H-1234	\$ 1.32	S-10	Speeder—12" long.....	\$2.70
1/2	ST-1216	.72	1 1/8	H-1236	1.38	S-15	Speeder—17-1/2" long.....	2.70
9/16	ST-1218	.72				S-20C	Offset Sliding T Handle—11-1/2"	2.25
19/32	ST-1219	.72	1 1/4	H-1240	1.56	S-41	Flex Handle—17" long.....	4.50
5/8	ST-1220	.72	1 5/16	H-1242	1.56	†S-50	Ratchet, 10" long.....	4.50
11/16	ST-1222	.84				S-110	Extension—5-1/4" long.....	1.80
3/4	ST-1224	.90				S-115	Extension—10-1/2" long.....	2.10
25/32	ST-1225	.90	1 3/8	H-1244	1.56	S-140	Universal Joint.....	2.70
13/16	ST-1226	.90	1 7/16	H-1246	1.86	HEAVY DUTY PATTERN <i>See illustrations, page 85</i>		
7/8	ST-1228	.90				H-20A	Sliding T Handle—17-1/2" long..	3.30
15/16	ST-1230	1.08				H-50	Ratchet—18-1/2" long.....	10.50
31/32	ST-1231	1.08	1 1/2	H-1248	1.86	H-110	Extension—8" long.....	2.70
1	ST-1232	1.08	1 5/8	H-1252	2.16	H-115	Extension—15-1/2" long.....	3.30
						H-140	Universal Joint.....	7.50

NOTE:—Flex Handle S-41 omitted from Set 55-A.

† S-51 Reversible “Superratchet” (see page 79) may be substituted for S-50 at \$2.25 List, extra.

Fully Guaranteed

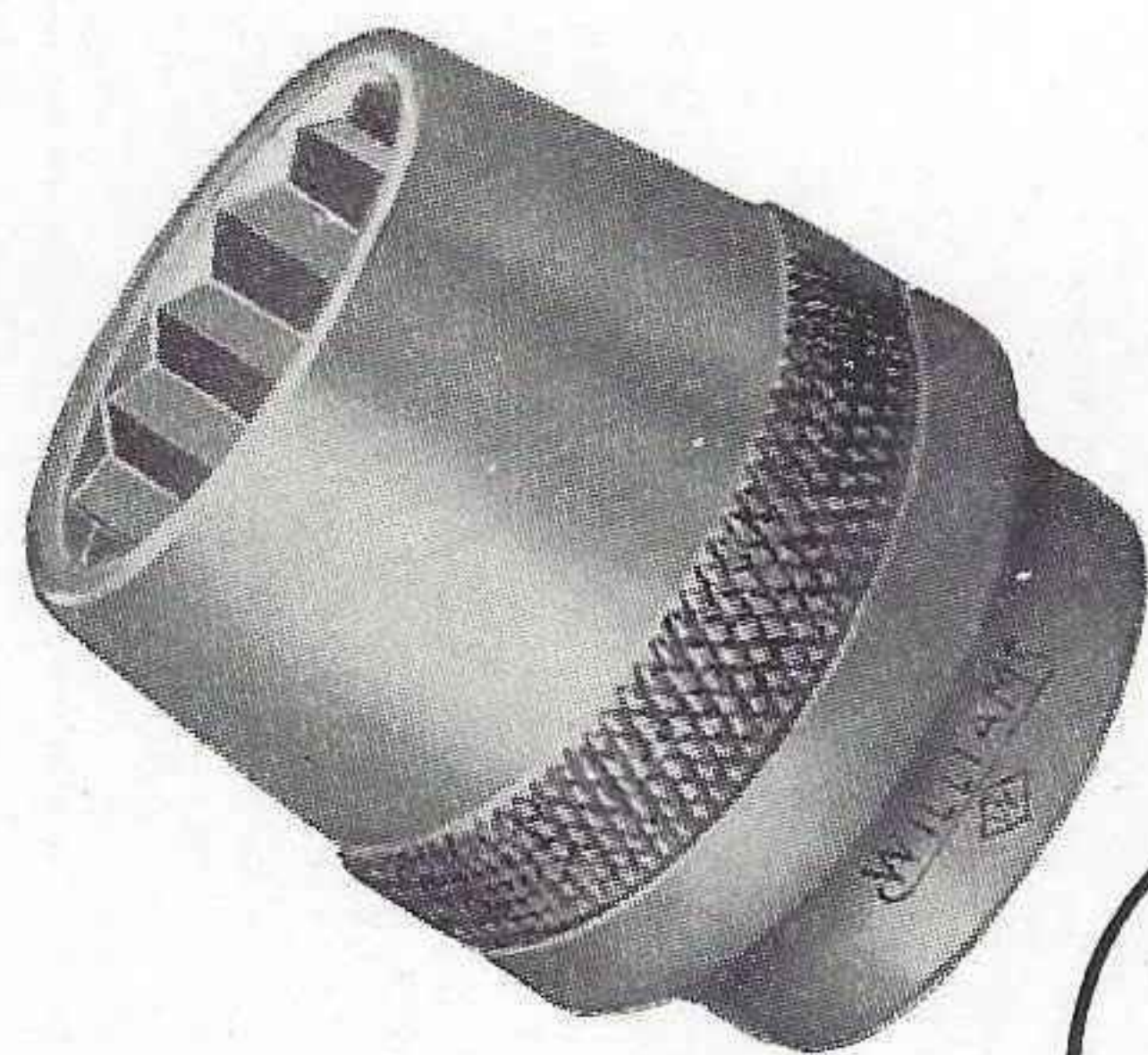
✦ REGISTERED TRADE MARK

♦ "SUPERSOCKET" WRENCHES

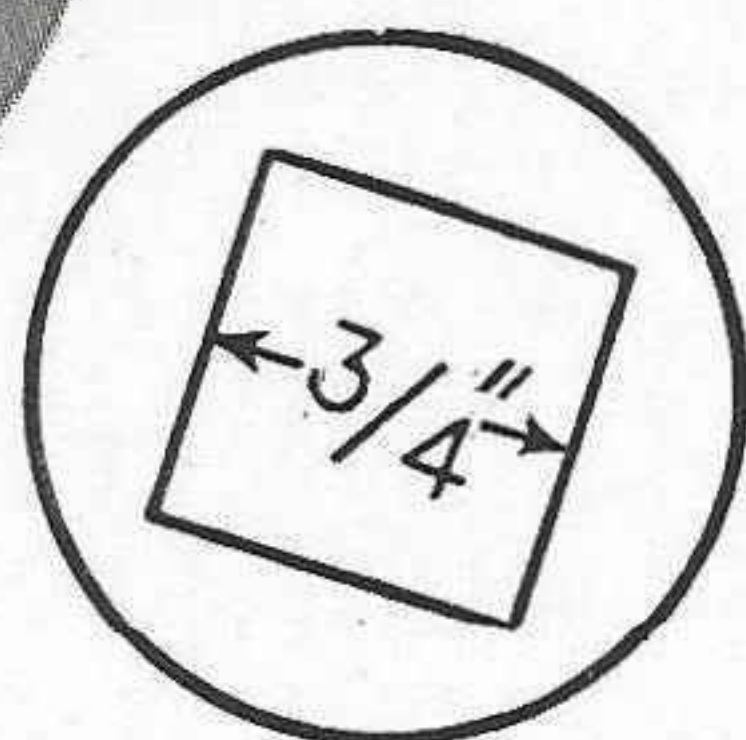
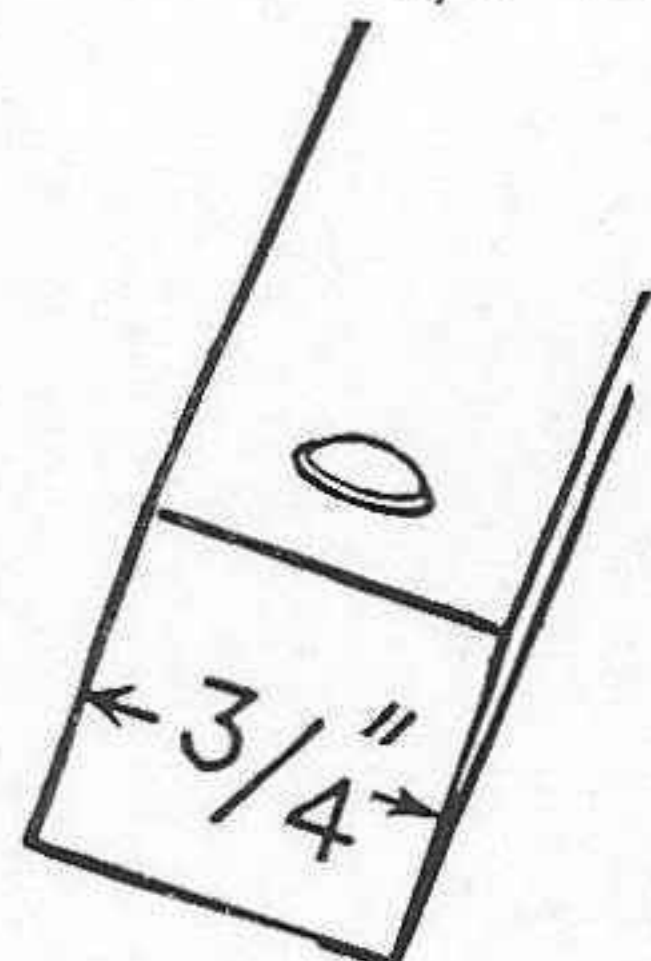
(Chrome-plated over Nickel)

HEAVY DUTY PATTERN

3/4" SQUARE DRIVE



With
12-Point
Opening



SOCKETS

Williams' Heavy Duty Sockets are designed for harder service where more strength is required than on the everyday job. They provide ample strength without clumsy bulk. Will rotate nuts completely where the handle can be swung only 30°.

Made from superior high tensile Alloy Steel and heat-treated in electric furnaces.

Packed 2 in a box.

To use Heavy Duty Sockets (3/4" square female drive) with Standard Handles and Parts (1/2" square male drive), use Adapter SH-130, pages 79 and 87.

Nominal Opening	No.	PRICE, Each	U. S. Std. Nut; Size Bolt	Hex Head Cap Scr. Size Screw	S.A.E. Std. Nut; Size Bolt	Amer. Std. Regular Nut and Jam	Nominal Opening
7/8	H-1228	\$1.08	1/2	5/8	9/16	9/16	7/8
15/16	H-1230	1.08	.....	.....	5/8	.....	15/16
31/32	H-1231	1.08	9/16	.....	.....	.....	31/32
1	H-1232	1.08	.....	3/4	.....	5/8	1
1 1/16	H-1234	1.32	5/8	.....	3/4	.....	1 1/16
1 1/8	H-1236	1.38	.....	7/8	.....	3/4	1 1/8
1 3/16	H-1238	1.38	.....	.....	.....	.....	1 3/16
1 1/4	H-1240	1.56	3/4	.....	7/8	.....	1 1/4
1 5/16	H-1242	1.56	.....	1	.....	7/8	1 5/16
1 3/8	H-1244	1.56	.....	.....	.....	.....	1 3/8
1 7/16	H-1246	1.86	7/8	.....	1	.....	1 7/16
1 1/2	H-1248	1.86	.....	1 1/8	.....	1	1 1/2
1 5/8	H-1252	2.16	1	.....	1 1/8	.....	1 5/8
1 11/16	H-1254	2.70	.....	1 1/4	.....	1 1/8	1 11/16
1 3/4	H-1256	2.70	.....	.....	.....	.....	1 3/4
1 13/16	H-1258	2.95	1 1/8	.....	1 1/4	.....	1 13/16
1 7/8	H-1260	2.95	.....	.....	.....	1 1/4	1 7/8
2	H-1264	3.50	1 1/4	.....	1 3/8	.....	2
2 1/16	H-1266	4.10	.....	.....	.....	1 3/8	2 1/16
2 1/8	H-1268	4.40	.....	.....	.....	.....	2 1/8
2 3/16	H-1270	4.70	1 3/8	.....	1 1/2	.....	2 3/16
2 1/4	H-1272	5.30	.....	.....	.....	1 1/2	2 1/4

EXTRA DEEP HEAVY DUTY SOCKETS

Sockets have depth of opening required for extra long threaded bolts, or for double-nut jobs as used on hydraulic and other power presses. Ample strength for heavy, severe service. Packed 3 in a box.

Nominal Opening	No.	PRICE, Each	U. S. Std. Nut	S.A.E. Std. Nut	Extreme Length	Nominal Opening
15/16	HD-1230	\$1.62	.....	5/8	3 1/4	15/16
1 1/16	HD-1234	1.86	5/8	3/4	3 1/4	1 1/16
1 1/4	HD-1240	2.28	3/4	7/8	3 1/4	1 1/4
1 7/16	HD-1246	2.52	7/8	1	3 1/2	1 7/16



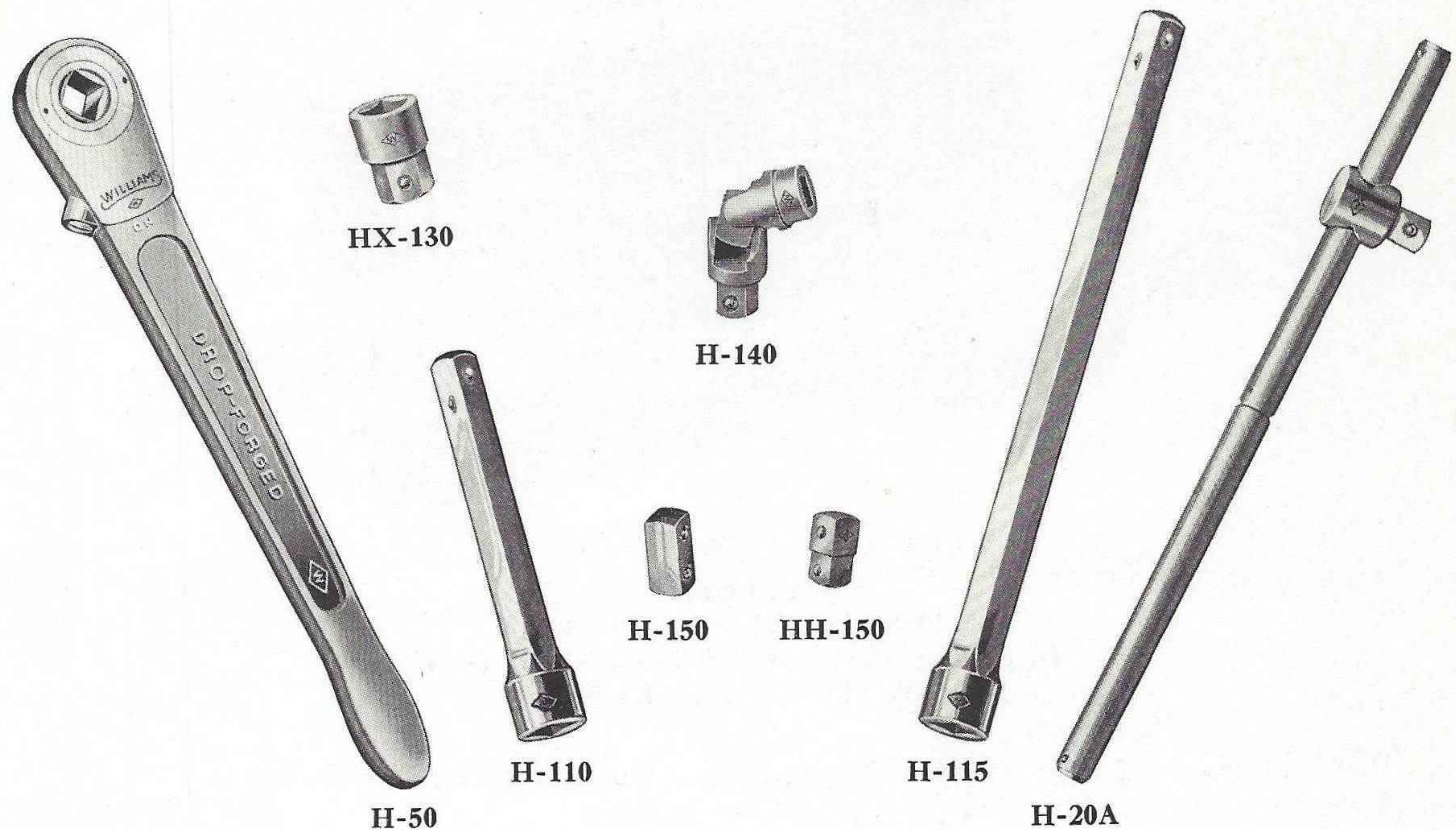
Fully Guaranteed

♦ REGISTERED TRADE MARK

★ “SUPERSOCKET” WRENCHES
 (Chrome-plated over Nickel)

HEAVY DUTY PATTERN
 3/4" SQUARE DRIVE

HANDLES and PARTS



No.	Piece	PRICE	No.
H-20A	Sliding T Handle—17-1/2" long	\$ 3.30	H-20A
H-50	Ratchet—18-1/2" long; Complete with Plug-Connector H-150	10.50	H-50
H-110	Extension Bar—8" long	2.70	H-110
H-115	Extension Bar—15-1/2" long	3.30	H-115
HX-130	Adapter, 3/4" square female and 1" hex male—Adapts Heavy Duty Handles (3/4" square male drive) to Extra Heavy Duty Sockets (1" hex female drive). See page 88	1.50	HX-130
H-140	Universal Joint	7.50	H-140
H-150	Ratchet Plug-Connector	1.20	H-150
HH-150	Plug-Adapter, 5/8" square male and 3/4" square male—Adapts Sockets with 5/8" square female drive to Ratchets with 3/4" square normal drive; also, Ratchets with 5/8" square drive to Sockets with 3/4" square female drive	1.50	HH-150

Fully Guaranteed

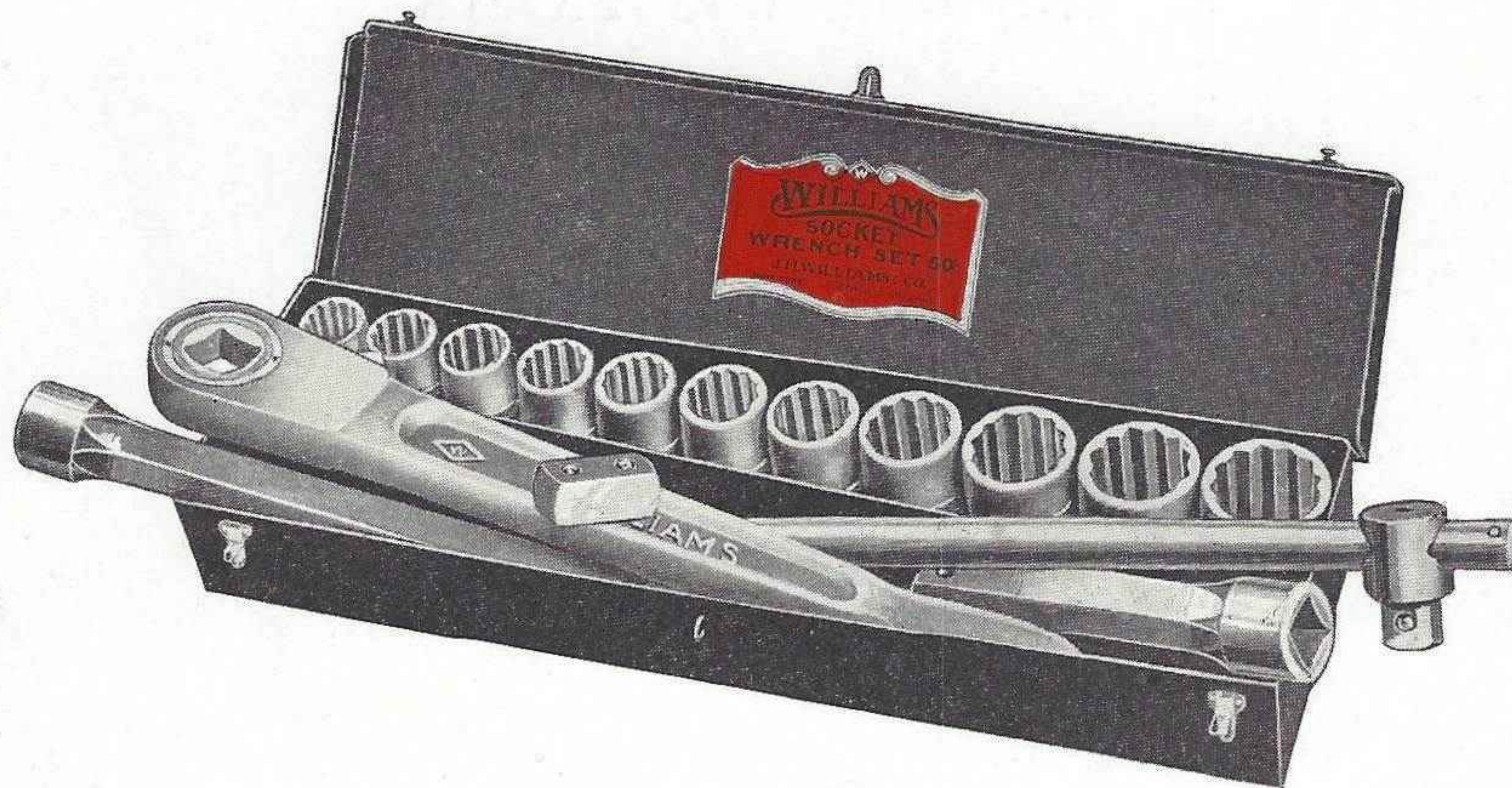
★ REGISTERED TRADE MARK

♦ **"SUPERSOCKET" WRENCHES**
(Chrome-plated over Nickel)

HEAVY DUTY PATTERN

3/4" SQUARE DRIVE

SET No. A-50



LIST PRICE, Complete—\$48.54

15 Pieces

10 Sockets and 5 Accessories

In Strong Steel Case, 19-3/4 x 5-1/4 x 2-3/4"

Total Weight, 25 1/4 lbs.

Williams' Set A-50 for Heavy Duty contains Sockets and Accessories of trim design, yet of ample strength for hard jobs.

Ten Sockets with 12-point openings from 1-1/16 to 1-3/4", care for all U. S. Std. Nuts 5/8 to 1"; Hex Cap Screws 7/8 to 1-1/8"; all S. A. E. Std. Nuts 3/4 to 1-1/8"; all Amer. Std. Regular and Jam Nuts 3/4 to 1"; Light and Castle Nuts 3/4 to 1-1/8".

The Handles and Parts are easily connected with the Sockets (and as readily disconnected), but are held firmly against unintentional displacement.

CONTENTS OF SET

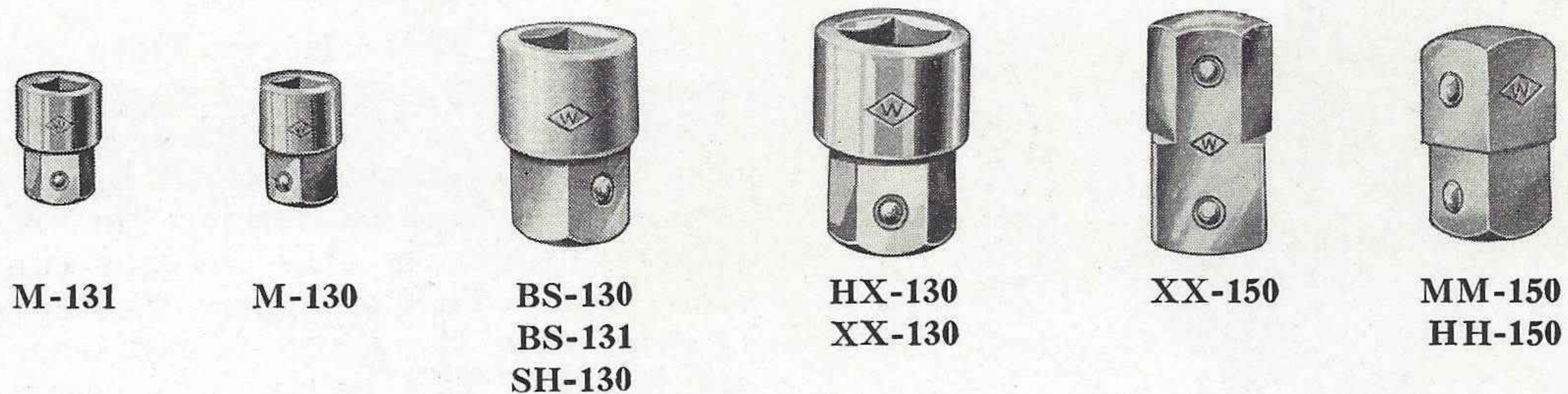
10 TWELVE-POINT SOCKETS							5 HANDLES AND PARTS		
Size Opening	No.	For U.S. Std. Nut; Size Bolt	For Hex Cap Screw; Size Screw	For S. A. E. Std. Nut; Size Bolt	For Amer. Std. Reg. & Jam Nuts	PRICE Each	No.	Piece	PRICE Each
1-1/16	H-1234	5/8	....	3/4	....	\$1.32	H-20A	Sliding T Handle—17-1/2" long	\$3.30
1-1/8	H-1236	....	7/8	....	3/4	1.38			
1-3/16	H-1238	....	....	....	....	1.38			
1-1/4	H-1240	3/4	....	7/8	....	1.56			
1-5/16	H-1242	....	1	....	7/8	1.56			
1-3/8	H-1244	....	....	....	....	1.56	H-110	Extension—8" long.....	2.70
1-7/16	H-1246	7/8	....	1	....	1.86	H-115	Extension—15-1/2" long	3.30
1-1/2	H-1248	....	1 1/8	....	1	1.86			
1-5/8	H-1252	1	....	1 1/8	....	2.16			
1-3/4	H-1256	....	....	....	....	2.70	H-140	Universal Joint.....	7.50

Fully Guaranteed

♦ REGISTERED TRADE MARK

★ “SUPERSOCKET” WRENCHES
(Chrome-plated over Nickel)

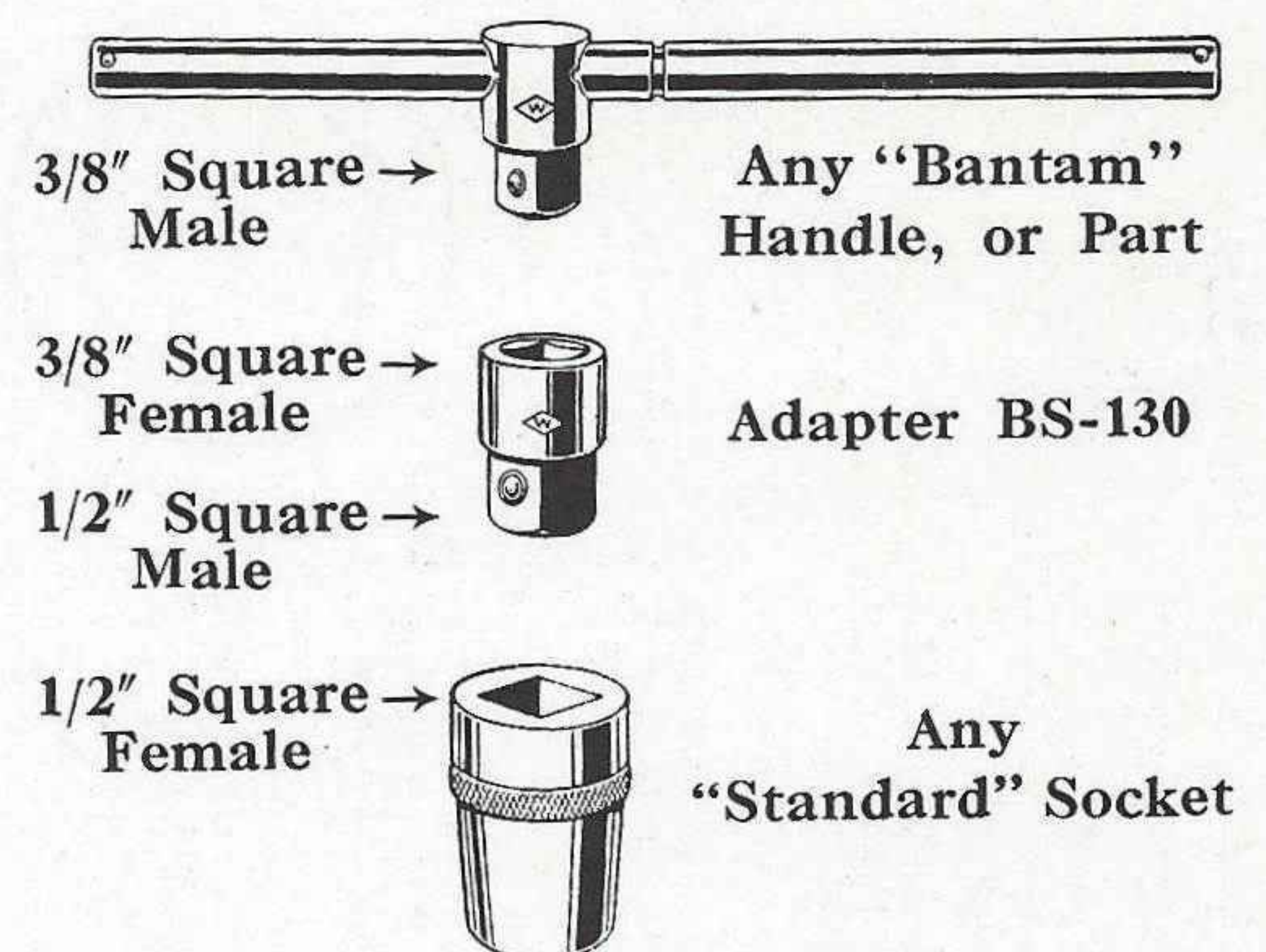
ADAPTERS—FOR “SUPERSOCKETS”, HANDLES AND PARTS



Williams' Adapters provide for the use of Sockets of one pattern with Handles and Parts of another pattern. See illustration at right showing, for instance, how Adapter BS-130 permits use of "Bantam" Handles (3/8" square male drive) with "Standard" Sockets (1/2" square female drive).

Finished in chrome-plate over nickel.

Fully Guaranteed



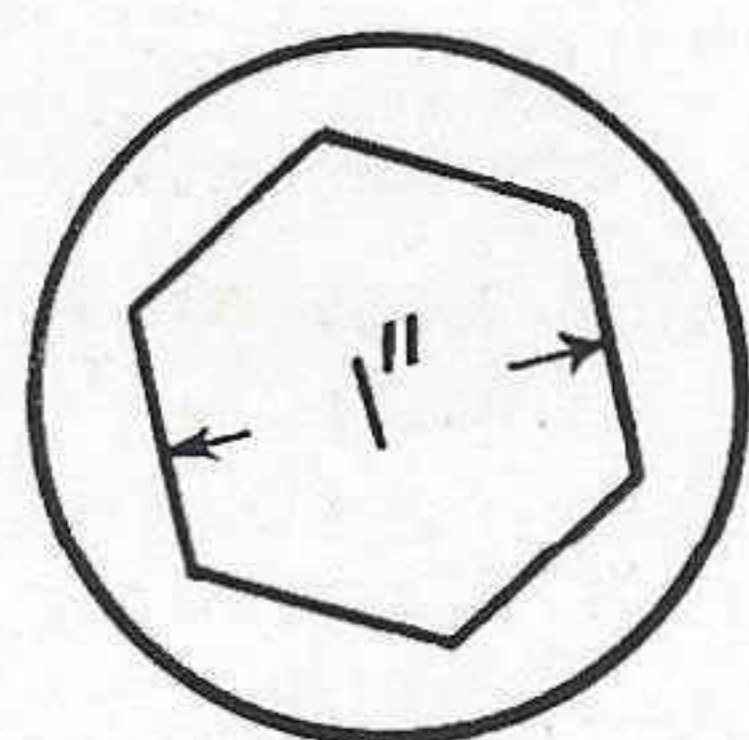
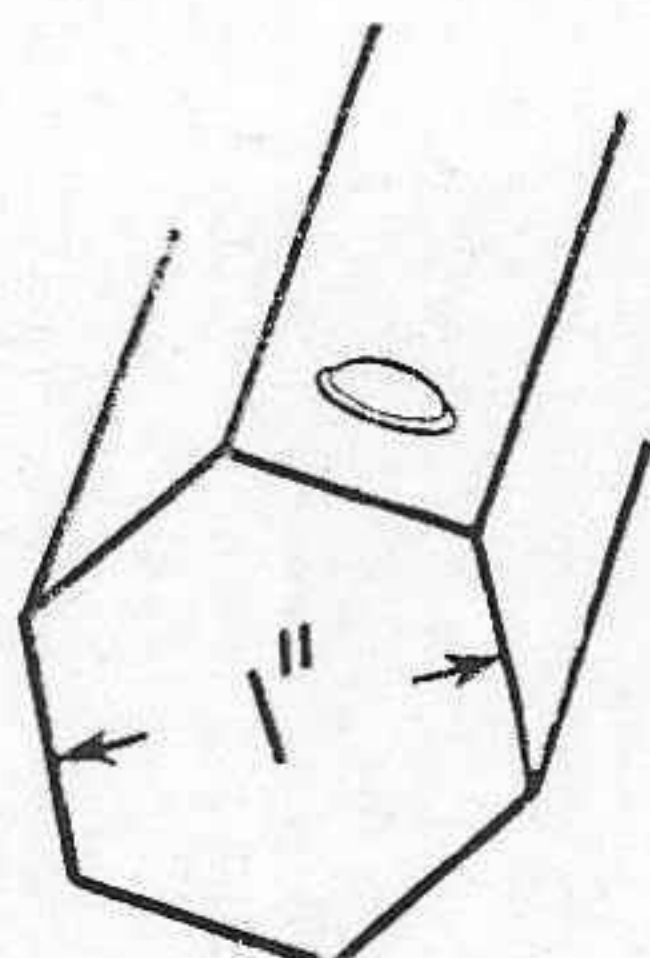
No.	A D A P T E R	PRICE	No.
M-130	9/32" square male and 5/16" hex female. Adapts Sockets with 9/32" square drive-opening to Handles with 5/16" hex drive-plug.....	\$.90	M-130
M-131	5/16" hex male and 9/32" square female. Adapts Sockets with 5/16" hex drive-opening to Handles with 9/32" square drive-plug.....	.90	M-131
MM-150	9/32" square male and 1/4" square male. Adapts Sockets with 9/32" square drive-opening to Ratchet with 1/4" square female drive; also, Ratchets with 9/32" square drive-opening to Sockets with 1/4" square female drive.....	.60	MM-150
BS-130	1/2" square male and 3/8" square female. Adapts "Bantam" Handles and Parts (3/8" square male drive) to "Standard" Sockets (1/2" square drive-opening).....	1.02	BS-130
BS-131	3/8" square male and 1/2" square female. Adapts "Bantam" Sockets (3/8" square drive-opening) to "Standard" Handles and Parts (1/2" square male drive).....	1.02	BS-131
SH-130	3/4" square male and 1/2" square female. Adapts "Standard" Handles and Parts, (1/2" square male drive) to "Heavy Duty" Sockets (3/4" square female drive).....	1.20	SH-130
HX-130	1" hex male and 3/4" square female. Adapts "Heavy Duty" Handles and Parts (3/4" square male drive) to "Extra Heavy Duty" Sockets (1" hex female drive).....	1.50	HX-130
XX-130	1" hex male and 1" square female. Adapts "Extra Heavy Duty" Sockets (1" hex drive-opening) to Handles and Parts with 1" square male drive.....	3.20	XX-130
HH-150	5/8" square male and 3/4" square male. Adapts Sockets with 5/8" square drive-opening to Ratchets with 3/4" square drive; also, Ratchets with 5/8" square drive to Sockets with 3/4" square drive-opening.	1.50	HH-150
XX-150	1" square male and 1" hex male. Adapts Sockets with 1" square drive-opening to Ratchets with 1" hex male drive; also, Ratchets with 1" square drive to Sockets, 1" hex drive-opening.....	2.70	XX-150

★ REGISTERED TRADE MARK

★“SUPERSOCKET” WRENCHES
(Chrome-plated over Nickel)

EXTRA HEAVY DUTY PATTERN

1" HEX DRIVE



With
12-Point
Opening

SOCKETS

Williams' Extra Heavy Duty Sockets provide sturdy, rugged strength for the hardest service. In addition to the 1" hex drive opening in their base, they are cross-drilled to receive the Sliding Handle which is thus brought close to the work. This minimizes the tendency to tip when the socket is used near end of handle. Will rotate nuts completely where handle can be swung only 30°.

Made from superior high tensile steel, heat-treated in electric furnaces for maximum strength.

Nos. X-1234 to X-1248 packed 2 in a box. All others, 1 in a box.

Size Opening	No.	U.S. Std. Nut; Size Bolt	Hex Cap Screw; Size Screw	S.A.E. Std. Nut; Size Screw	Amer. Std. Reglr., and Jam	PRICE, Each	Size Opening	No.	U.S. Std. Nut; Size Bolt	S.A.E. Std. Nut & Cap Screw	PRICE, Each
1-1/16	X-1234	5/8	.....	3/4	.....	\$ 1.80	1-13/16	X-1258	1-1/8	1-1/4	\$ 4.20
1-1/8	X-1236	.....	7/8	.....	3/4	1.80	2	X-1264	1-1/4	1-3/8	4.80
1-1/4	X-1240	3/4	.....	7/8	.....	1.98	2-3/16	X-1270	1-3/8	1-1/2	6.30
1-3/8	X-1244	.....	.....	.....	.....	2.10	2-3/8	X-1276	1-1/2	.....	7.50
1-7/16	X-1246	7/8	.....	1	.....	2.22	2-1/2	X-1280	.....	.....	10.50
1-1/2	X-1248	.....	1-1/8	.....	1	2.70	2-9/16	*X-1282	1-5/8	.....	12.00
1-5/8	X-1252	1	.....	1-1/8	.....	3.00	2-3/4	*X-1288	1-3/4	.....	16.50

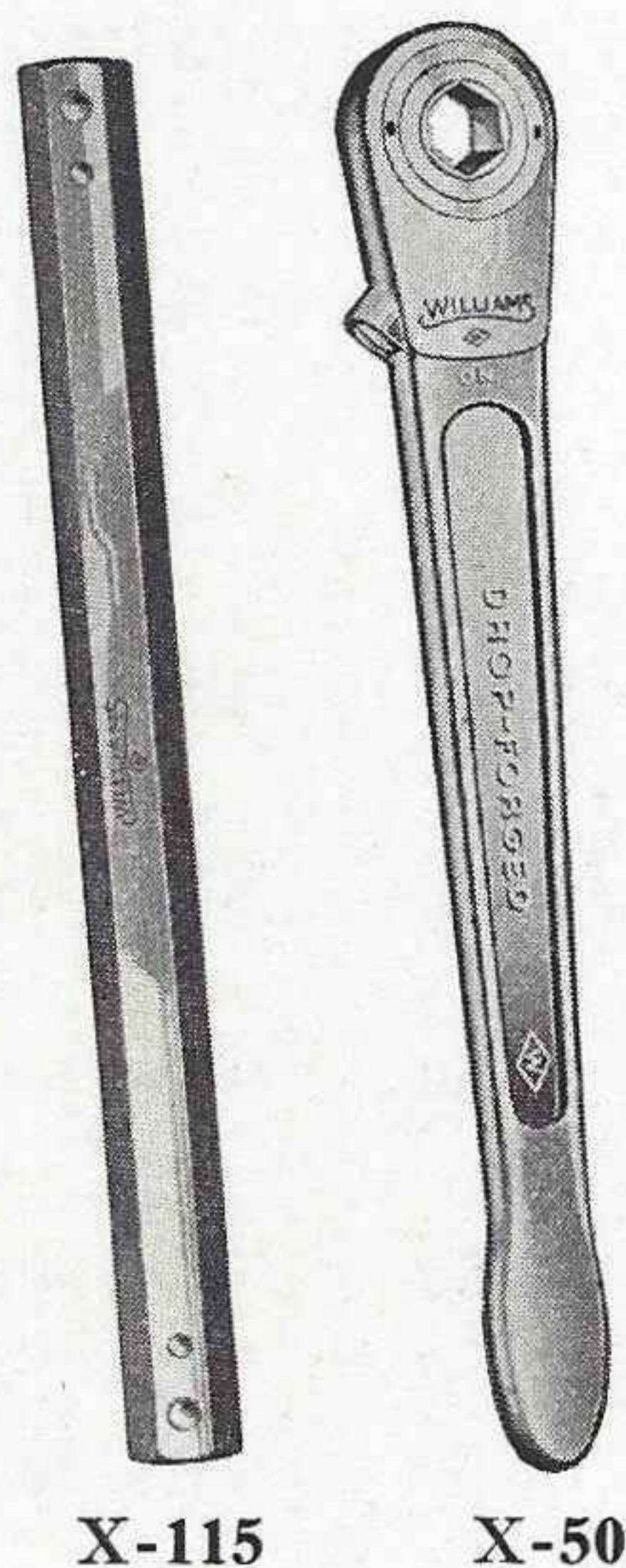
* These 2 Sockets are made with short neck and no cross-hole, like Heavy Duty pattern, page 84.

Note: To use Extra Heavy Duty Sockets (1" Hex female drive) with Heavy Duty Handles and Parts (3/4 square male drive), use Adapter HX-130, pages 85 and 87.

HANDLES and PARTS

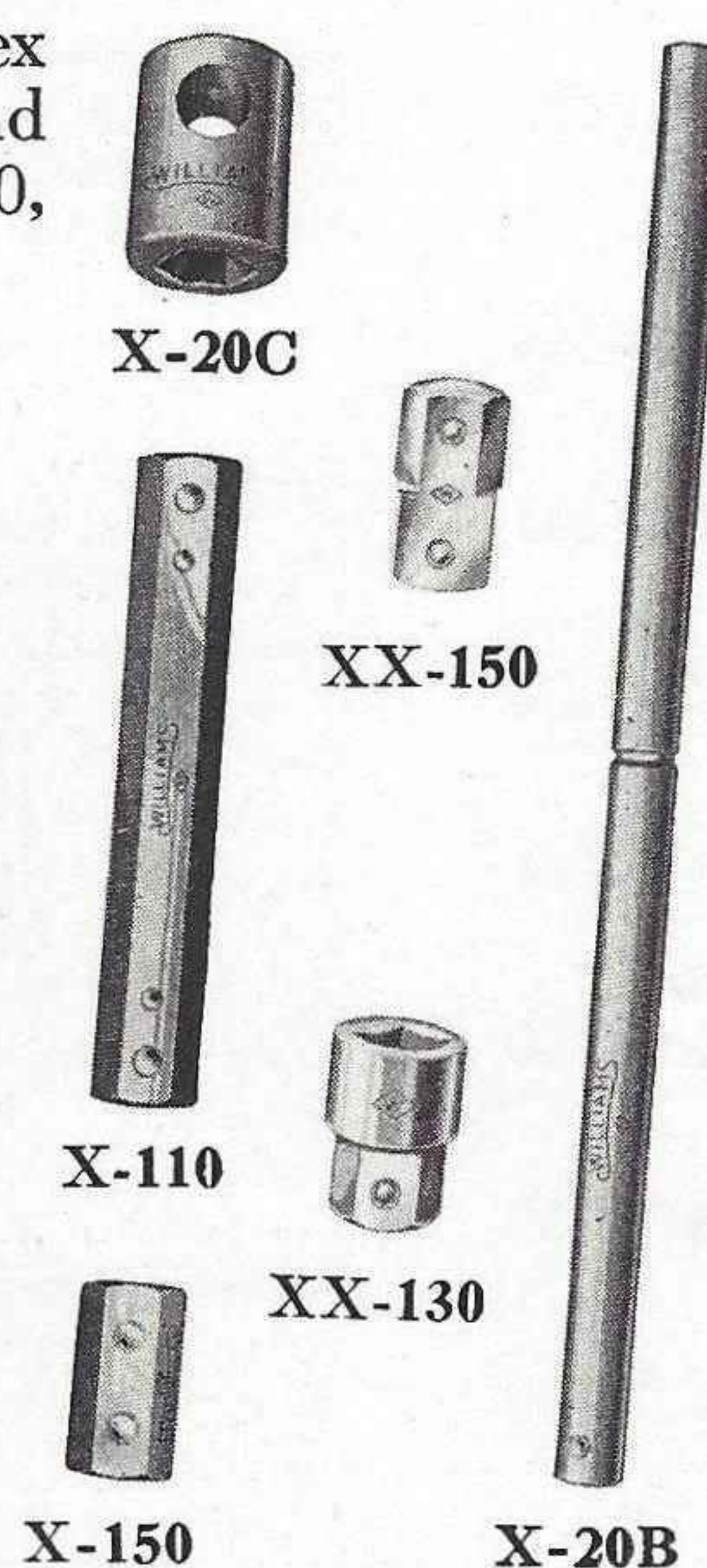
No.	Piece	PRICE, Each
X-20B	Sliding Handle—20" long.....	\$ 1.20
X-20C	Adapter—for Sliding Handle X-20B	2.52
X-50	Ratchet—20-1/2" long—Complete with Plug-Connector X-150...	16.20
X-110	Extension Bar—9" long.....	2.40
X-115	Extension Bar—18" long.....	3.60
X-150	Ratchet Plug-Connector.....	1.68
XX-130	Adapter—1" square Female and 1" hex Male.....	3.30
XX-150	Adapter—1" square Male and 1" hex Male.....	2.70

Fully Guaranteed



X-115

X-50



X-20C

XX-150

X-110

XX-130

X-150

X-20B

★ REGISTERED TRADE MARK

✦ "SUPERSOCKET" WRENCHES
(Chrome-Plated over Nickel)

EXTRA HEAVY DUTY PATTERN—1" HEX DRIVE

SET No. 75

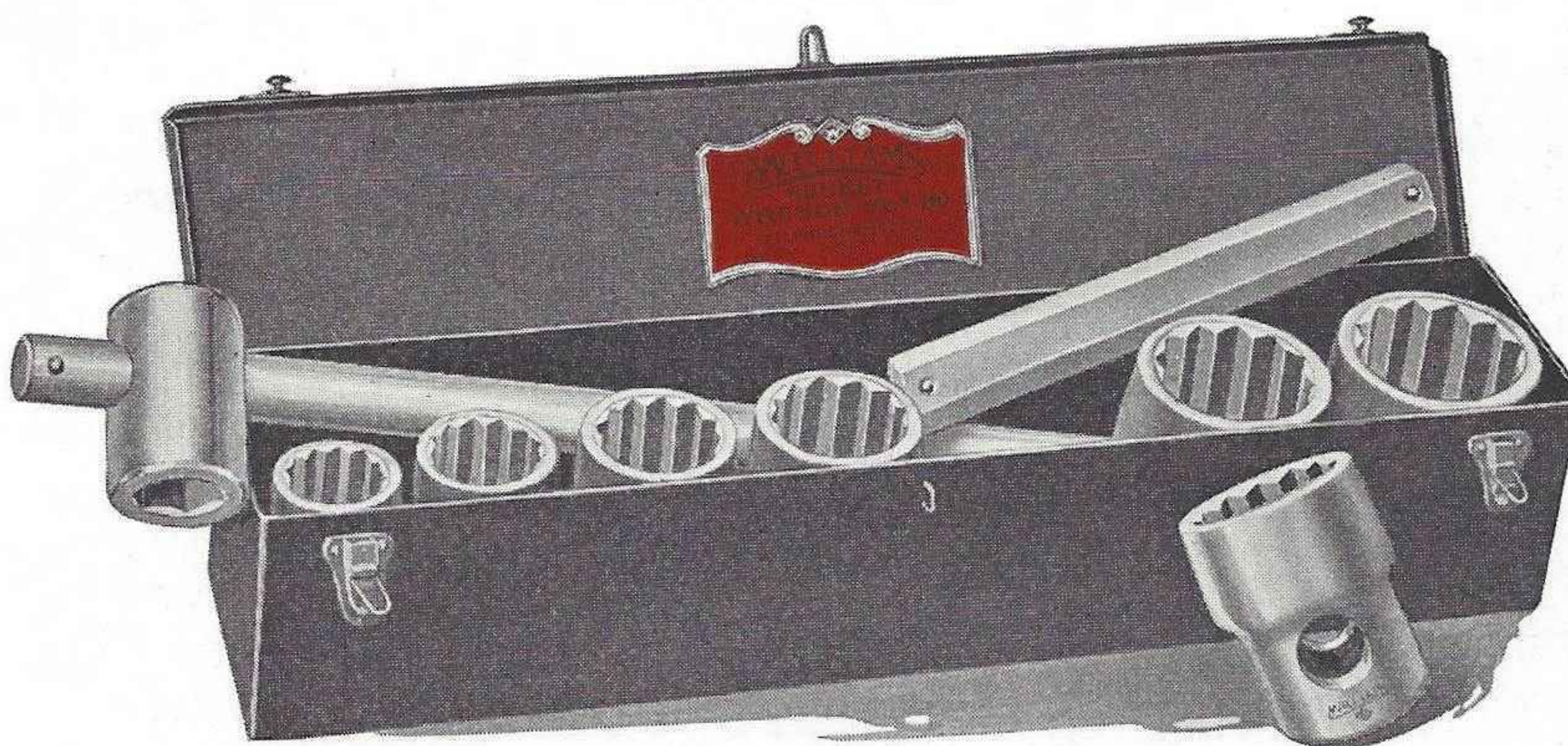


LIST PRICE, Complete—16 Pieces—\$69.90
In Strong Steel Case, 20-1/2 x 6-1/2 x 4-1/4":
Total Weight, 41 lbs.

Excellent for Heavy Industrial Service

- 11 Sockets with 12-point openings, 1-1/16, 1-1/8, 1-1/4, 1-3/8, 1-7/16, 1-1/2, 1-5/8, 1-13/16, 2, 2-3/16 and 2-3/8".
5 Accessories, Nos. X-20B, X-20C, X-50, X-110 and X-115.

SET No. 80

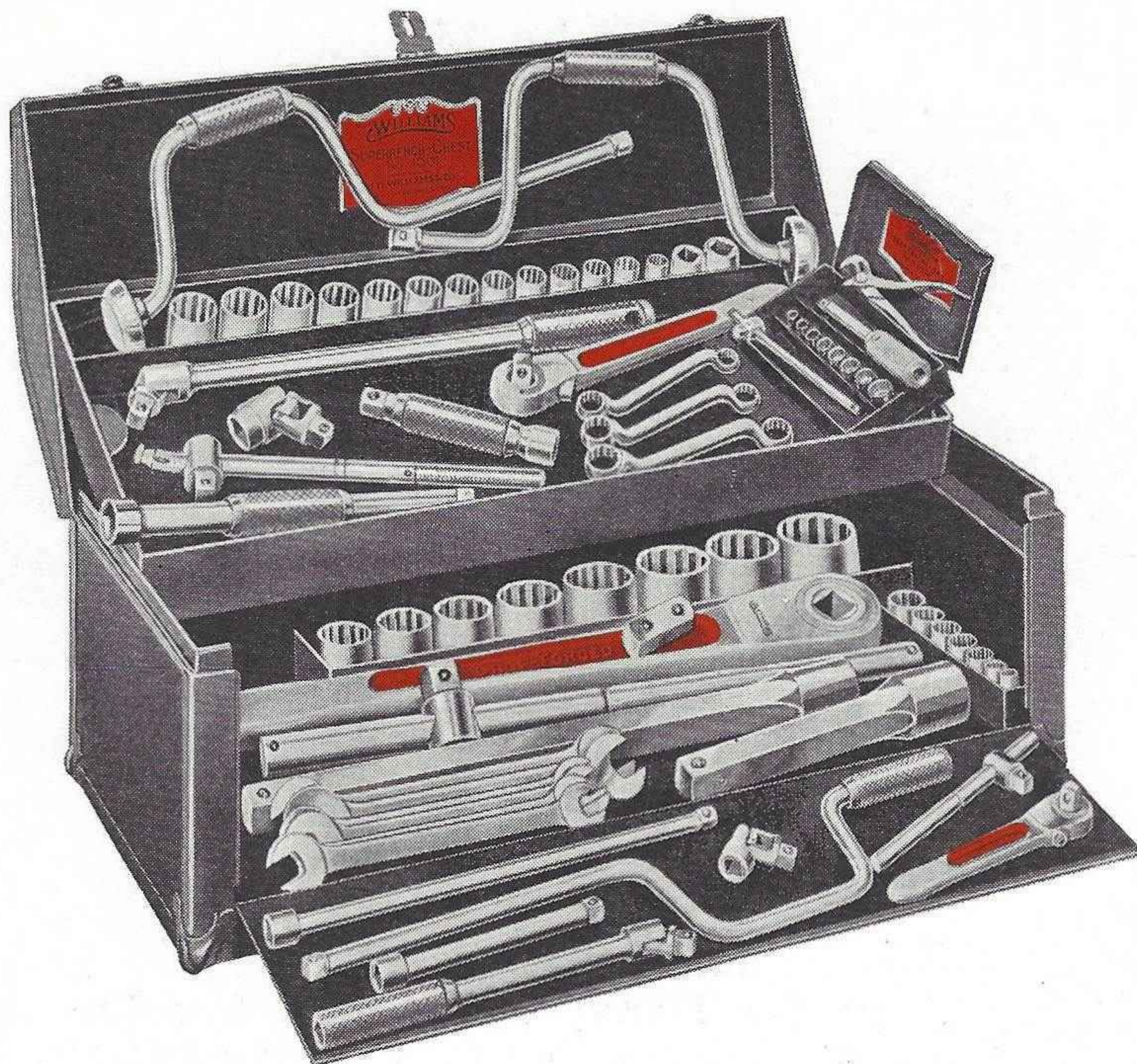


LIST PRICE, Complete—10 Pieces—\$40.02
In Strong Steel Case, 20-3/4 x 4-1/4 x 4-1/4"
Total Weight, 25 1/2 lbs.

- 7 Sockets with 12-point openings, 1-1/4, 1-7/16, 1-5/8, 1-13/16, 2, 2-3/16 and 2-3/8".
3 Accessories, Nos. X-20B, X-20C and X-110.
A compact Set suitable where range of work required is more restricted.

Fully Guaranteed

✦ REGISTERED TRADE MARK

SUPER WRENCH-CHEST No. 1001*"The Complete Tool Room"***LIST PRICE, Complete—\$154.60****85 Pieces—45 Sockets, 40 Handles and Wrenches****In Strong Steel Case, 23 x 10-1/4 x 10". Total Weight, 69 lbs.**

Williams' Super Wrench-Chest provides a complete assortment of wrenches in numerous patterns and sizes for machinists and mechanics—it's a miniature tool room in itself. Every opening required, from 3/16", for delicate adjustments and fussy jobs, up to 1-5/8" for heavy work, requiring tools of rugged strength.

The assortment is fully listed, with complete details as to sizes, etc., on opposite page. All tools are heat-treated and finished in chrome-plate, excepting "Superpliers".

The case and tray are of extra heavy metal, thoroughly reinforced at the corners. Continuous, full length "piano" hinges on both cover and "front door". The latter is deep and wide, providing complete accessibility to the bottom compartment. Individual tools can be readily located. The Chest is built to last a lifetime and is of ample size to accommodate additional tools.

The case is equipped with four ball casters, fitted with ball bearings, and can be easily rolled on bench or floor. It can also be carried comfortably, without disarranging the tools, by means of the strong metal "tote" handle on the top. A strong pad-lock with individual, duplicate keys is furnished.

(Contents listed on following page)

All Tools are Fully Guaranteed

SUPER WRENCH-CHEST No. 1001

"The Complete Tool Room"

CONTENTS OF CHEST

"SUPERSOCKETS"							SOCKET PARTS AND WRENCHES			
Open- ing	No.	U.S. Std. Nut	Hex Cap Screw	S. A. E. Std. Nut	Am. Std. Rg. Nut	PRICE, Each	No.	Piece	PRICE	
MIDGET PATTERN—Straight Wall							MIDGET PATTERN			
Hex	St. Wall				Mch. Screw		M-20A	Sliding T Handle—4-1/2" long...	\$1.02	
3/16	M-606	....	....	....	No. 2 & 3	.45	M-110	Extension—Driver, 5-3/8", with revolving, lockable Grip.....	1.44
7/32	M-607	....	....	....	....	.45	BANTAM PATTERN		
1/4	M-608	....	....	....	4	.45	F-15	Speeder—16-1/2" long, with knurled, revolving Grip....	2.10
9/32	M-609	....	....	....	....	.45	B-20A	Sliding T Handle—6-1/2" long...	1.35
12-pt.							B-40	Flex Handle—8" long; flexible head. Knurled Grip with 3/8" square drive hole in end—for Extension	2.70	
5/16	M-1210	1/8	1/8	....	5 & 6	.45	B-51	REVERSIBLE Ratchet, 6-1/2"	4.50
11/32	M-1211	....	....	....	8	.45	B-110	Extension Bar—5-3/4" long.....	1.08
3/8	M-1212	....	3/16	....	10	.45	B-115	Extension Bar—10-1/2" long.....	1.20
7/16	M-1214	....	1/4	1/4	12&1/4	.45	B-140	Universal Joint.....	2.46
BANTAM PATTERN—Straight Wall							STANDARD PATTERN			
12-pt.	St. Wall						S-10	Speeder—12".....	2.70	
3/8	B-1212	....	3/16	....	*No.10	.72	S-15	Speeder—17-1/2"; revolving Grips	2.70
7/16	B-1214	....	1/4	1/4	1/4	.72	S-20C	Offset Sliding T Handle—11-1/2"	2.25
1/2	B-1216	1/4	5/16	5/16	....	.72	S-41	Extra Long Flex Handle—17"—flexible head. Knurled Grip with 1/2" square drive hole in end, for use as Extension; also 1/2" round hole for Bar.....	4.50
9/16	B-1218	....	3/8	3/8	5/16	.72	S-51	REVERSIBLE Ratchet, 10-1/2"	6.75
5/8	B-1220	....	7/16	7/16	3/8	.72	S-110	Extension Bar—5-1/2" long, with knurled revolving Grip.....	1.80
11/16	B-1222	3/8	....	....	....	.84	S-115	Extension Bar—10-1/2" long, with knurled revolving Grip.....	2.10
3/4	B-1224	....	1/2	1/2	7/16	.84	S-140	Universal Joint.....	2.70
*Mch. Scr. Nut							HEAVY DUTY PATTERN			
12-pt.	St. Wall						H-20A	Sliding T Handle—17-1/2" long..	3.30	
7/16	ST-1214	....	1/4	1/4	1/4	.72	H-50	Ratchet, Complete—18-1/2" long.	10.50
1/2	ST-1216	1/4	5/16	5/16	....	.72	H-110	Extension Bar—8" long.....	2.70
9/16	ST-1218	....	3/8	3/8	5/16	.72	H-115	Extension Bar—15-1/2" long.....	3.30
19/32	ST-1219	5/16	....	....	....	.72	H-140	Universal Joint.....	7.50
5/8	ST-1220	....	7/16	7/16	3/8	.72	"SUPERRENCHES"—Long and Thin		
21/32	ST-1221	....	....	....	....	.72	1090D	Openings 1/2 & 9/16"—8" long...	.76
11/16	ST-1222	3/8	....	....	....	.84	1090D		.76
3/4	ST-1224	....	1/2	1/2	7/16	.90	1092F	Openings 5/8 & 11/16"—8" long.	.82
25/32	ST-1225	7/16	....	....	....	.90	1092F		.82
13/16	ST-1226	....	9/16	....	1/2	.90	1094	Openings 3/4 & 7/8"—9" long....	.88
7/8	ST-1228	1/2	5/8	9/16	9/16	.90	1094		.88	
15/16	ST-1230	....	....	5/8	....	1.08	DUOHEX-BOX (12-point) "Superrenches"		
31/32	ST-1231	9/16	1.08	7723	3/8 & 7/16—7-3/8"	15° Angle Offset, Long Pattern	.90
1	ST-1232	3/4	5/8	1.08	7025	1/2 & 19/32—8-1/4"		.95
	Ex. Deep						7727	9/16 & 5/8—9-1/4"		1.00
13/16	SD-1226	9/16	1/2	1.26	7029	11/16 & 25/32—10-1/2"		1.25
7/8	SD-1228T	1.26	7731A	3/4 & 7/8—12"		1.30
1	SD-1232	3/4	5/8	1.50	7033C	15/16 & 1—13-3/4"		1.75
1-1/8	SD-1236	7/8	3/4	1.68	9723	3/8 & 7/16—4-1/2"	Dble.Offset Short Pattern	.90
	Sqre. Taper						9725	7/16 & 1/2—5-1/2"		.95
1/2	S-41672	9727	9/16 & 5/8—6"		1.05
9/16	S-418	....	....	....	5/16	.72	"SUPERPLIERS", Etc.		
Width	Socket						1519	Plier, slip-joint 4-position; 4 1/2"...	1.85	
Blade	Bit						1520	Plier, slip-joint 8-position; 9 1/2"...	2.20	
15/16	SB-30	....	....	....	....	1.02	1997	Hammerhead Screwdriver.....	1.30
1-1/4	SB-40	....	....	....	....	1.38			
HEAVY DUTY PATTERN										
12-pt.	Taper									
1-1/16	H-1234	5/8	....	3/4	....	1.32			
1-1/8	H-1236	....	7/8	....	3/4	1.38			
1-1/4	H-1240	3/4	....	7/8	....	1.56			
1-5/16	H-1242	....	1	....	7/8	1.56			
1-3/8	H-1244	....	....	....	....	1.56			
1-7/16	H-1246	7/8	....	1	....	1.86			
1-1/2	H-1248	....	1-1/8	....	1	1.86			
1-5/8	H-1252	1	....	1-1/8	....	2.16			

★ **“SUPERSOCKET” WRENCHES**
(Chrome-plated over Nickel)

REFRIGERATION SERVICE SET No. R-19



LIST PRICE, Complete—\$18.50

19 Pieces

In Strong Steel Case

7-3/4 x 3-3/8 x 1-1/4"

Total Weight, 2-3/4 lbs.

This handy, compact assortment of “Supersocket” Wrenches has been carefully selected for servicing and repairing all makes of Electric Refrigerators. 14 slim, straight-wall Chrome-Alloy Sockets and 5 Accessories, including a specially designed Reversible Ratchet. Heat-treated and chrome-plated. All as described in table below.

Fully Guaranteed

† Midget “Supersockets”
 9/32" Square Drive

No.	Square Opening	Diameter		PRICE
		Nose	Base	
M-406	3/16	7/16	1/2	\$.45
M-407	7/32	15/32	1/2	.45
M-408	1/4	1/2	1/2	.45
M-810	*5/16	9/16	9/16	.45
M-812	*3/8	11/16	11/16	.45

† All 7/8" long. *8-Point Opening.

Kerotest Valve Packing Nut Socket
 9/32" Square Drive

No.	Oval Opening	Extreme Size		PRICE
		Diam.	Length	
MR-15	1/2 x 3/8	5/8	1 1/2	\$1.00

Bantam “Supersockets”
 3/8" Square Drive

No.	12-Pt. Opening	Diameter		PRICE
		Nose	Base	
B-1214	7/16	39/64	21/32	\$.72
B-1216	1/2	11/16	11/16	.72
B-1218	9/16	49/64	49/64	.72

Packing Gland Nut “Supersockets”†
 9/32" Square Drive

No.	Size Prongs		Diameter		PRICE
	Depth	Width	Inside	Outside	
MR-2	3/32	5/64	5/16	7/16	\$.75
MR-4	3/32	1/8	21/64	15/32	.75
MR-6	3/32	7/64	5/16	9/16	.75
MR-8	1/8	1/8	29/64	11/16	.75
MR-10	3/32	5/64	9/16	13/16	.75

HANDLES AND PARTS

† All 1-1/2" long.

No.	Piece	PRICE	No.	Piece	PRICE
B-51A	Reversible “Superratchet”—6-1/2" long. Ratchet drives in head, 3/8" sq. male and 1/4" sq. female. Also, in end of handle, 3/16 and 1/4" sq. openings for delicate adjustment of valves. Turning Shift-lever reverses action instantly.....	\$4.50	M-20A	Sliding T Handle—4-1/2" long; 9/32" square male drive.....	\$1.02
			B-110	Extension—5-1/2" long; 3/8" square drive, male and female	1.08
			M-115	Extension — 6" long; 9/32" square drive, male and female	1.08
			MM-150	Plug Adapter—1" long; 1/4" square and 9/32" square.....	.60

For additional Wrenches, well adapted to Refrigeration Service, see following lines:—
 Ratchets.....Page 77 “Superrenches”...Page 52 “T” Socket—Hex...Page 38
 “Superjustables”...Page 49 Open-Box.....Page 66 “T” Socket—Square...Page 39

The above Wrenches are also grouped together in Refrigeration circular; free on request.

★ REGISTERED TRADE MARK

JUNE 1937

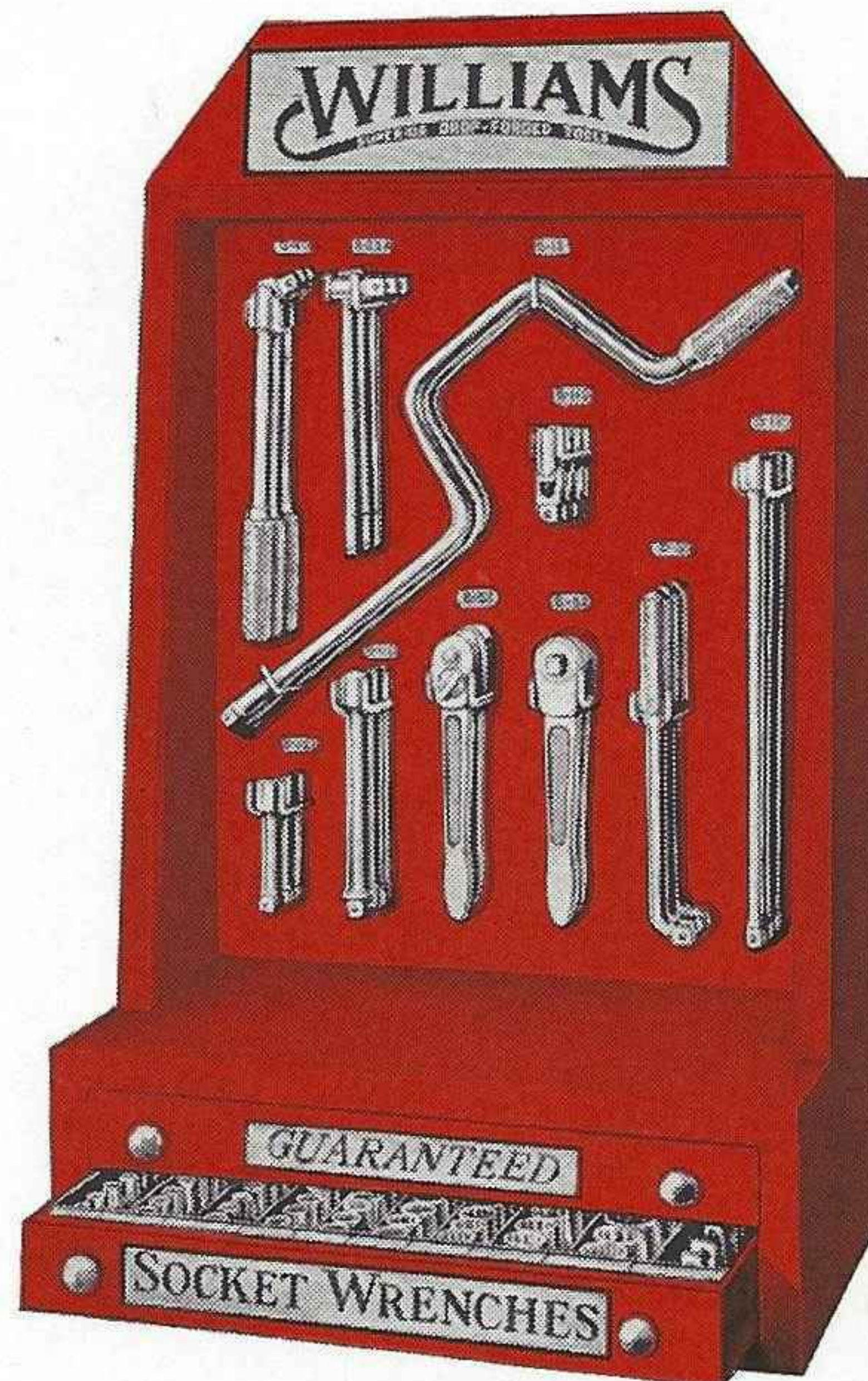
✦ "SUPERSOCKET" WRENCHES

(Chrome-plated over Nickel)

BANTAM PATTERN—3/8" SQUARE DRIVE

DISPLAY CABINET No. 300

Assortment
contains
56 Sockets
34 Accessories
Total Weight, 44 lbs.



Extreme
Size of Cabinet
26 1/2" high
14" wide
10" deep

LIST PRICE, Complete—\$114.30

This attractive "Silent Salesman" adds to your sales force, but not to your payroll. Made of heavy metal, it is sturdier and more durable than ordinary cabinets.

"Bantam" Straight Wall 12-point Sockets, 1/4 to 3/4" openings, with a wide variety of Handles and Parts, care for all needs in 3/8" square drive Socket Wrench combinations. Each compartment in drawers is labeled to show sizes of Sockets therein.

CONTENTS OF CABINET

STRAIGHT WALL SOCKETS							HANDLES AND PARTS		
Open- ing	No.	Quan- tity	U. S. Std. Hex Nut	Hex Head Cap Screw	S. A. E. Std. Hex Nut	Amer. Std. Nut Reglr.	No.	Piece	Quan- tity
‡1/4	B- 608	6	....	....	....	†No. 4	F-15	Speeder—16-1/2" long, with knurled revolving grip....	3
5/16	B-1210	6	1/8	1/8	....	†5 & 6	B-20A	Sliding T Handle—6-1/2" long	3
11/32	B-1211	6	....	....	....	†8	B-30	Offset Handle—7-3/4" long...	3
3/8	B-1212	6	....	3/16	....	†10	B-40	Flex Handle—8" long; flexible head, knurled grip with 3/8" drive hole in end.....	3
7/16	B-1214	6	....	1/4	1/4	1/4	B-50	Ratchet—6-1/2" long.....	2
1/2	B-1216	6	1/4	5/16	5/16	....	B-51	Reversible Ratchet—6-1/2"	2
9/16	B-1218	6	....	3/8	3/8	5/16	B-108	Extension Bar—3" long.....	3
5/8	B-1220	6	....	7/16	7/16	3/8	B-110	Extension Bar—5-3/4" long...	3
11/16	B-1222	4	3/8	....	....	....	B-115	Extension Bar—10-1/4" long..	3
3/4	B-1224	4	....	1/2	1/2	7/16	BS-130	Adapter—3/8" square Female; 1/2" square Male.....	3
							BS-131	Adapter—3/8" square Male; 1/2" square Female.....	3
							B-140	Universal Joint.....	3

‡ Hex Opening

† Machine Screw Nuts.

Every "Supersocket" and Part is Fully Guaranteed

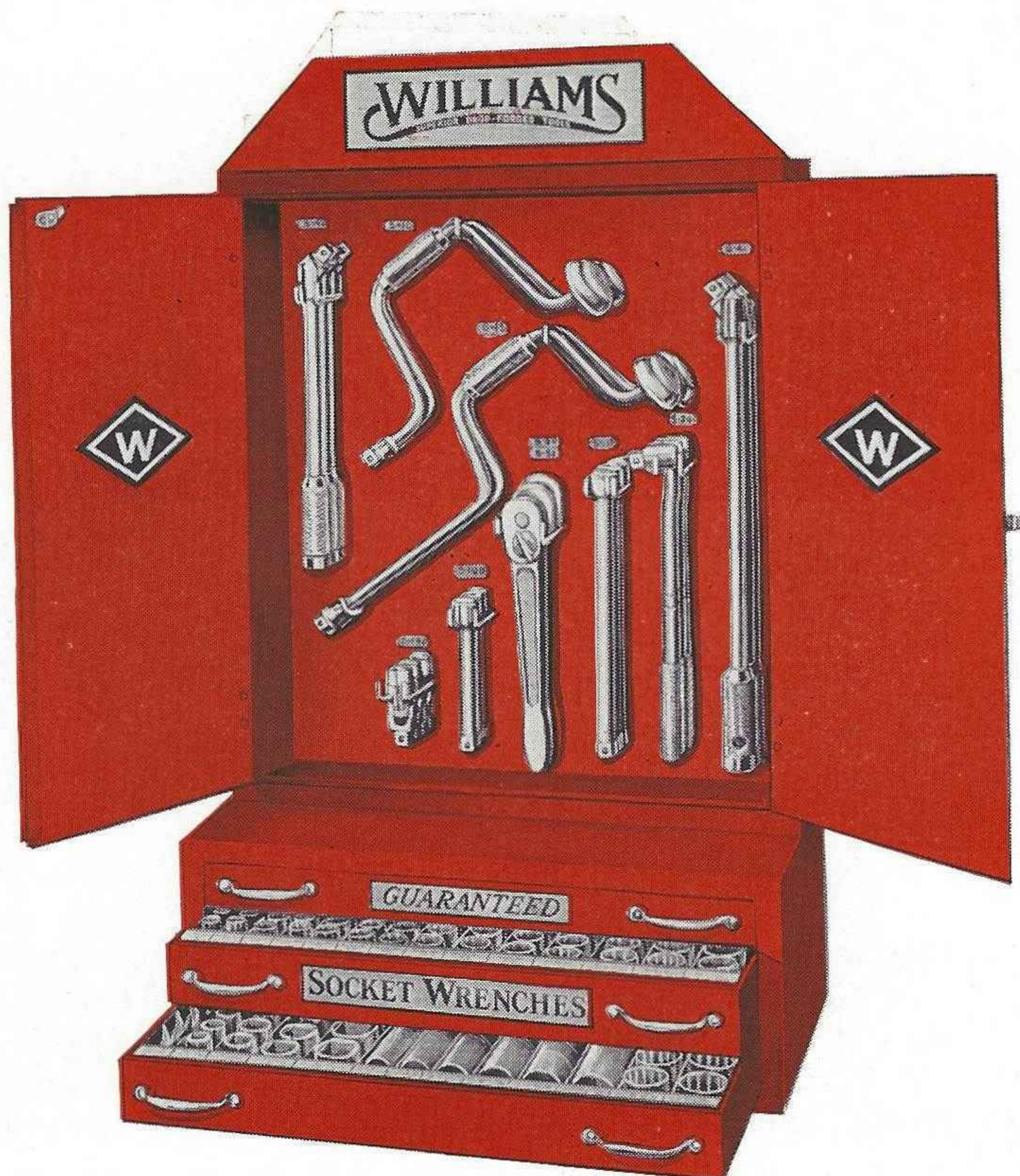
✦ REGISTERED TRADE MARK

JUNE 1937

♦ “SUPERSOCKET” WRENCHES
(Chrome-plated over Nickel)

STANDARD PATTERN—1/2" SQUARE DRIVE

DISPLAY CABINET No. 600



Assortment contains 144 Sockets and 35 Accessories

Extreme Size of Cabinet—33-1/2" high, 20-1/2" wide, 11" deep

Total Weight, 130 lbs.

LIST PRICE, Complete \$243.30

This cabinet is a miniature store in itself, providing most attractive display, as well as handy storage for Williams' "Supersocket" Wrenches. The assortment includes Straight Wall, Regular and Extra Deep 12-point Sockets, 7/16 to 1 1/4", and Square Sockets 5/16 to 1"—a sufficient spread to cover practically all popular needs. The variety of Handles and Parts provides wide selection in practically any type of Socket Wrench combination desired.

Made of heavy metal that will hold its shape—much better quality than ordinary cabinets. Each compartment in the drawers is labeled showing the various sizes of Sockets it contains.

Every "Supersocket" and Part is Fully Guaranteed

♦ REGISTERED TRADE MARK

✦

“SUPERSOCKET” WRENCHES

(Chrome-plated over Nickel)

STANDARD PATTERN—1/2" SQUARE DRIVE

DISPLAY CABINET No. 600

(Continued)

CONTENTS OF CABINET

Nominal Opening	SOCKETS—12-POINT and SQUARE OPENINGS								Nominal Opening
	Regular 12-Point		Straight Wall 12-Point		Extra Deep 12-Point		Square		
	No.	Quan- tity	No.	Quan- tity	No.	Quan- tity	No.	Quan- tity	
5/16	S-410	3	5/16
3/8	S-412	3	3/8
7/16	ST-1214	6	.....	.....	S-414	3	7/16
1/2	ST-1216	8	SD-1216	1	S-416	3	1/2
9/16	ST-1218	8	SD-1218	1	S-418	3	9/16
19/32	ST-1219	6	.....	.....	.....	.....	19/32
5/8	ST-1220	8	SD-1220	1	S-420	2	5/8
21/32	ST-1221	4	.....	.....	.....	.....	21/32
11/16	ST-1222	8	SD-1222	1	S-422	2	11/16
3/4	ST-1224	8	SD-1224	1	S-424	2	3/4
25/32	ST-1225	6	.....	.....	.....	.....	25/32
13/16	ST-1226	6	*SD-1226	2	.....	.....	13/16
7/8	ST-1228	6	SD-1228	1	S-428	2	7/8
7/8	*SD-1228T	2	.....	.....	7/8
15/16	ST-1230	6	SD-1230	1	.....	.....	15/16
31/32	ST-1231	6	.....	.....	.....	.....	31/32
1	ST-1232	6	*SD-1232	2	S-432	2	1
1 1/16	S-1234	3	.....	.....	.....	.....	.....	.....	1 1/16
1 1/8	S-1236	3	.....	.....	*SD-1236	2	.....	.....	1 1/8
1 3/16	S-1238	3	.....	.....	.....	.....	.....	.....	1 3/16
1 1/4	S-1240	3	.....	.....	.....	.....	.....	.....	1 1/4

* Popular Spark Plug sizes

HANDLES AND PARTS

No.	Quan- tity	Piece	No.
S-10	2	Short Speeder—14-1/2". Knurled revolving grip.....	S-10
S-15	2	Long Speeder—19-1/2". Knurled revolving grip.....	S-15
S-20C	3	Offset Sliding T Handle—11-1/2". Operates in HALF the space required by ordinary handles.....	S-20C
S-40		Flex Handle—12" long; flexible head. Knurled grip with 1/2" square drive hole in end—may be used as Extension.....	S-40
S-41	3	Flex Handle—17" long. Similar to S-40, but has 1/2" round cross hole in grip for Bar.....	S-41
S-50	1	Ratchet—10" long, complete with Locked-in Plug-Connector.....	S-50
S-51	2	Reversible Ratchet—10-1/2" long. 24 teeth in Ratchet-gear instead of usual 16. Turning Shift-lever reverses action instantly.....	S-51
S-110P	3	Short Extension—5-1/2" long.....	S-110P
S-115P	3	Long Extension—10-1/2" long.....	S-115P
S-140	3	Universal Joint.....	S-140
SB-30	2	Drag-Link Socket Bit—Size Blade, 7/32 x 15/16".....	SB-30
SB-40	2	Drag-Link Socket Bit—Size Blade, 3/16 x 1-1/4".....	SB-40
BS-130	2	Adapter—3/8" sq. female and 1/2" square male.....	BS-130
BS-131	2	Adapter—3/8" sq. male and 1/2" sq. female.....	BS-131
SH-130	2	Adapter—1/2" sq. female and 3/4" sq. male. Adapts "Standard" Handles and Parts to "Heavy Duty" Sockets.....	SH-130

Every "Supersocket" and Part is Fully Guaranteed

✦ REGISTERED TRADE MARK

SUPERIOR DROP-FORGINGS

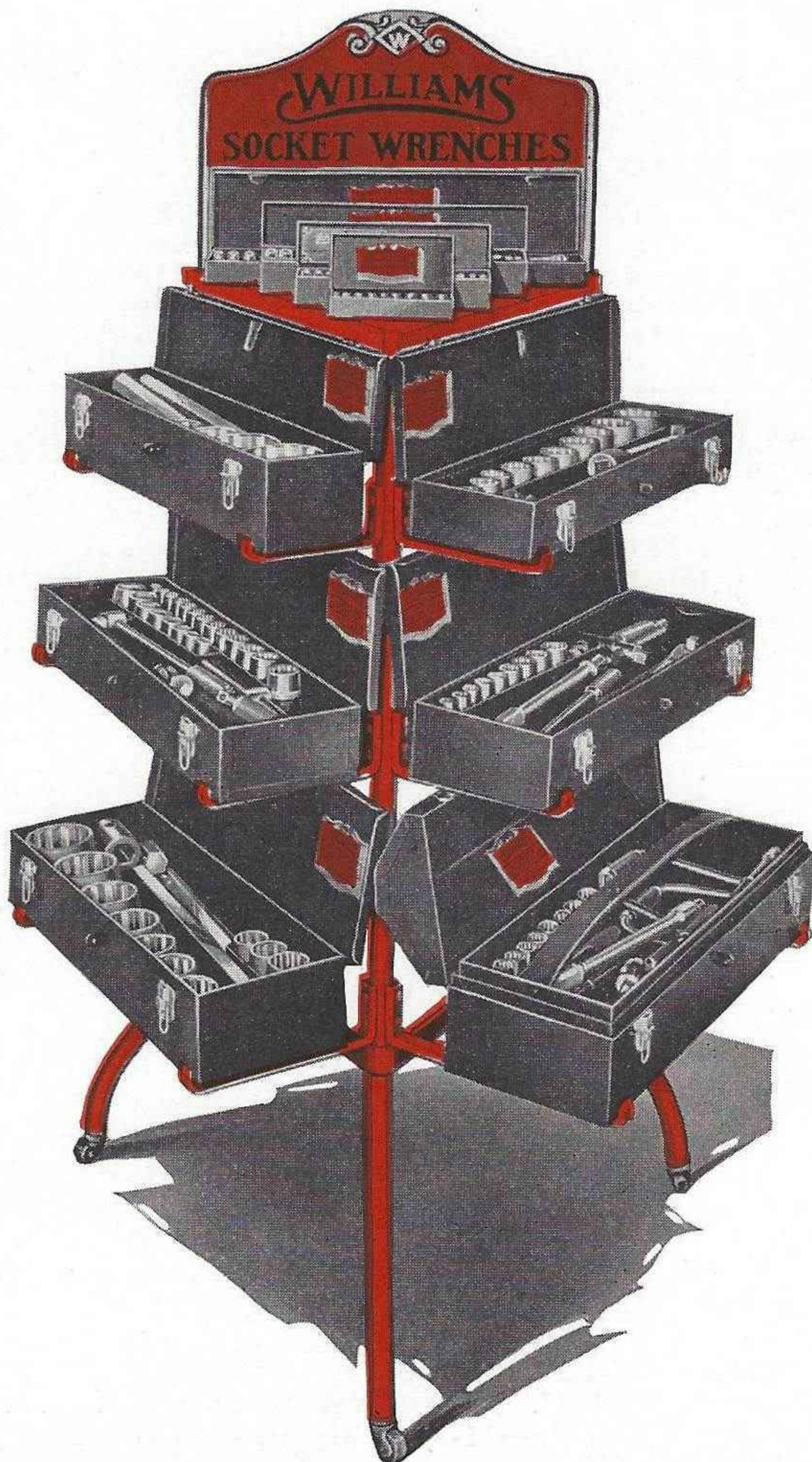
WILLIAMS
SUPERIOR DROP-FORGED TOOLS

AND DROP-FORGED TOOLS

DISPLAY STAND

FOR

♦ "SUPERSOCKET" WRENCH SETS



*Every "SUPERSOCKET" and Accessory is
Fully Guaranteed*

This compact stand 30" wide and 60" high, provides a most attractive and convenient means of displaying the most popular Williams' "Supersocket" Sets.

A convenient rack for holding literature describing them is provided on the back of the panel at the top.

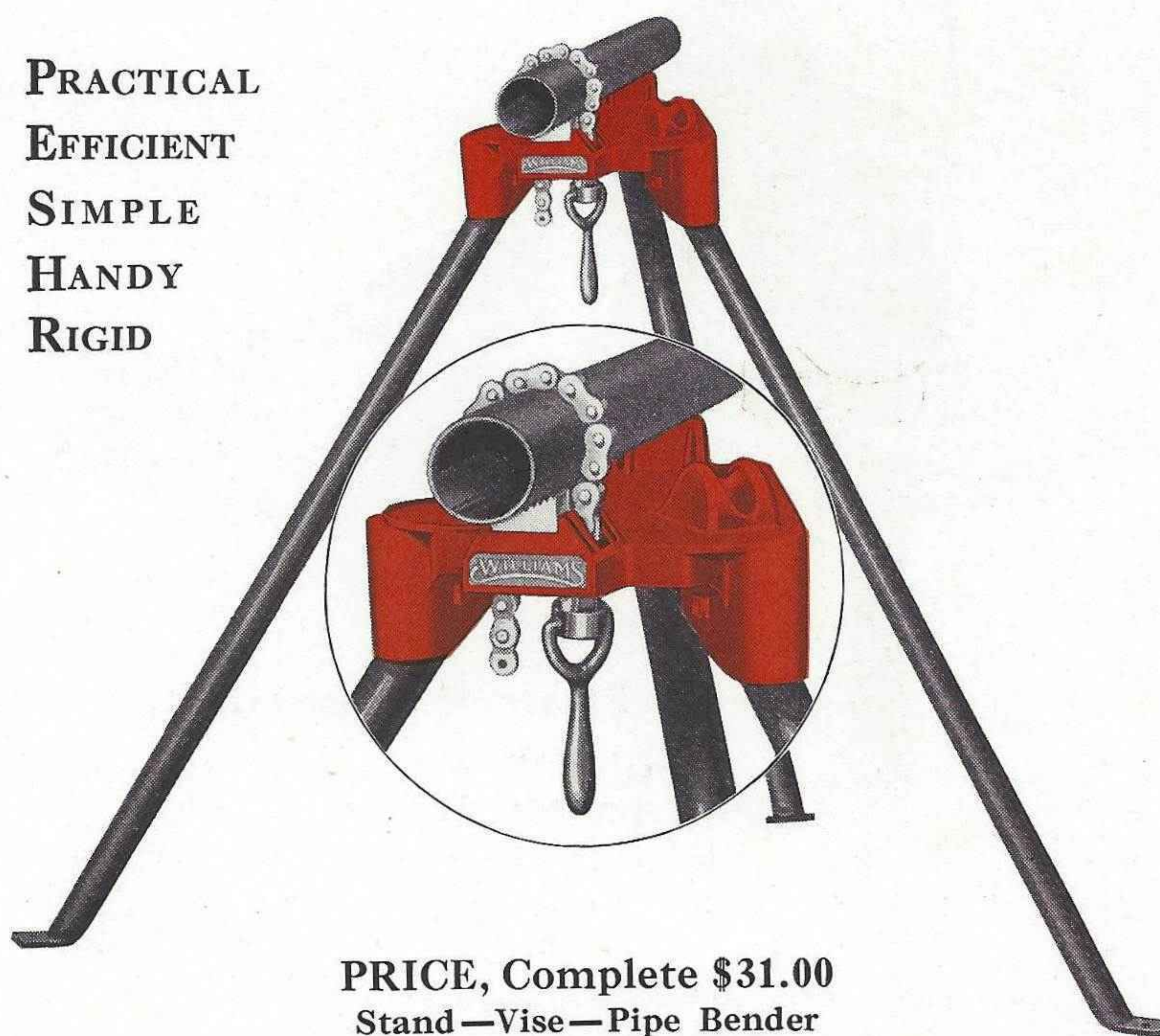
The stand, mounted on casters, is made entirely of metal, enameled in orange. The panel at the top is lettered in black and gold. The rich orange of the stand makes a pleasing contrast to the dark gray of the boxes with their labels in gold, black and orange.

This display is a real "Silent Salesman"—dealers find it a very efficient aid. It is loaned only for the display of Williams' "Supersocket" Sets.

♦ REGISTERED TRADE MARK

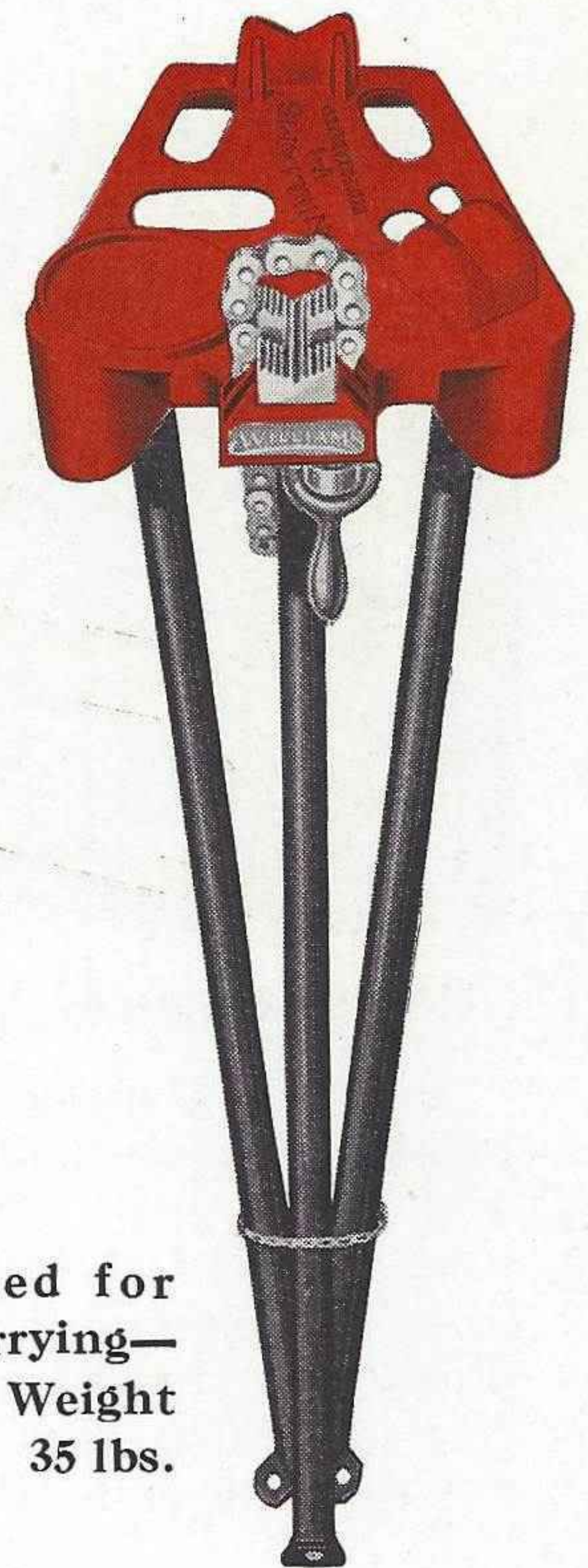
3-IN-1
 ✦ "VULCAN" VISE STAND NO. V-1
 VISE—STAND—PIPE BENDER

PRACTICAL
 EFFICIENT
 SIMPLE
 HANDY
 RIGID



PRICE, Complete \$31.00
 Stand—Vise—Pipe Bender
Fully Guaranteed

Folded for
 carrying—
 Weight
 35 lbs.



Williams' "Vulcan" Vise Stand combines all the advantages of the Chain Pipe Vise with a firm and rigid, yet easily portable stand. It is a most efficient tool for all pipe, 1/8 to 2 inches, at very moderate price.

Base (high grade malleable iron) is heavily reinforced under the aprons to prevent distortion in severe service. In addition to "V" pipe support in rear, recess for oil can and slots for handy arrangement of tools are provided.

Pipe Bender handles pipe up to 3/4 inch.

Legs are 1" pipe, with upset feet, punched for fastening to floor, if desired. Even without such fastening, they provide firm, stable support. For easy carrying, the legs fold and may be tied together by a permanently attached chain (see illustration).

Jaw—tool steel, carefully hardened and tempered—grips along its entire length. No bending of the smaller sizes of pipe.

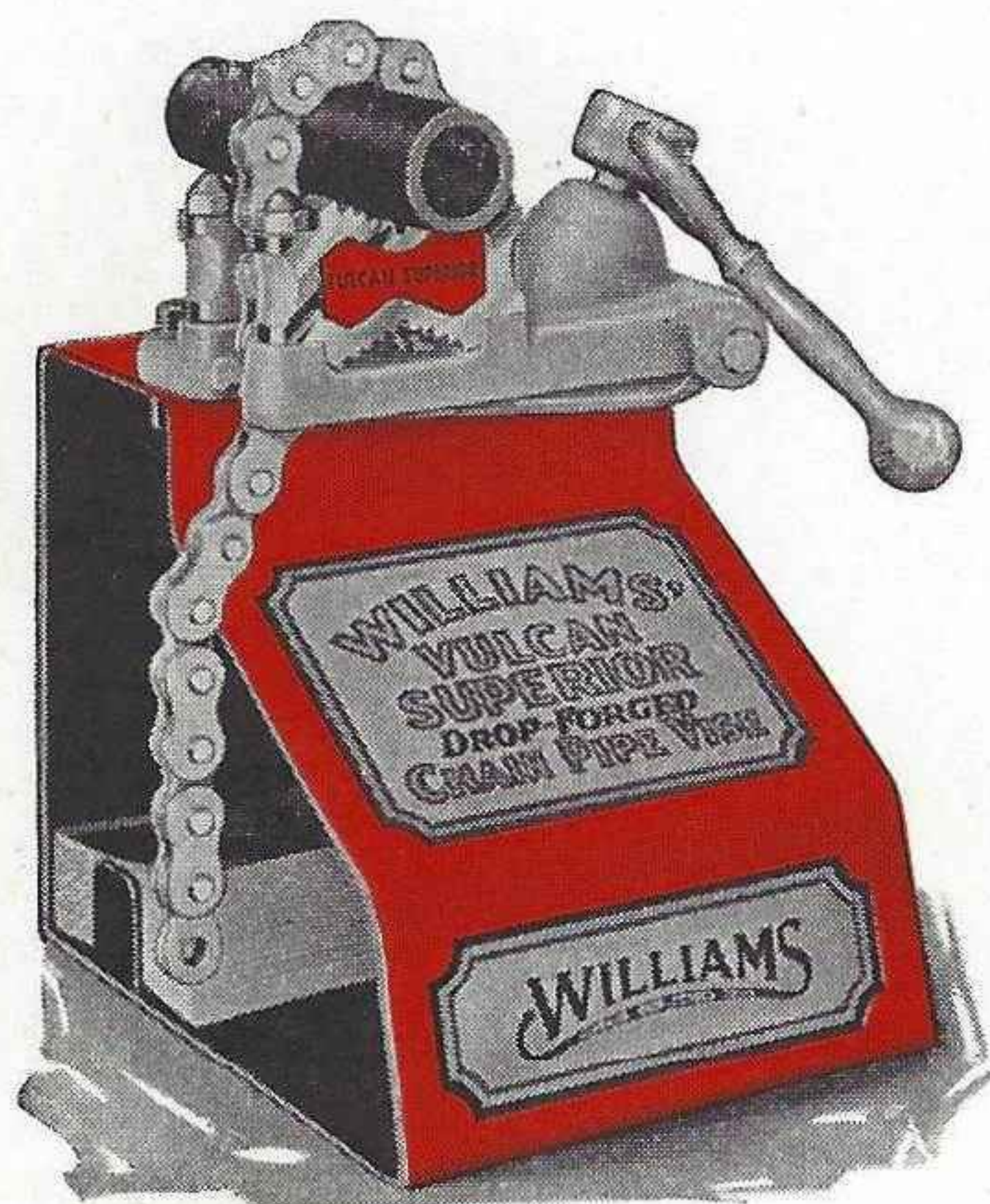
Chain, Nut and Handle are of tough wrought steel. All three are the same as and are interchangeable with those supplied with Williams' "Vulcan" Vise No. 1—the original Chain Pipe Vise and the favorite for over 40 years.

All parts of Vise Stand are interchangeable.

Vise Stand No.	For Pipe Sizes	Weight, Complete	Stand, Complete	Prices, Stand Complete and Vise Parts					Nut Only
				Jaw Only	Chain with Screw	Chain Screw Only	Handle with Nut	Handle Only	
V-1	1/8 to 2	35 lbs.	\$31.00	\$3.20	\$2.50	\$.80	\$2.20	\$1.50	\$1.40

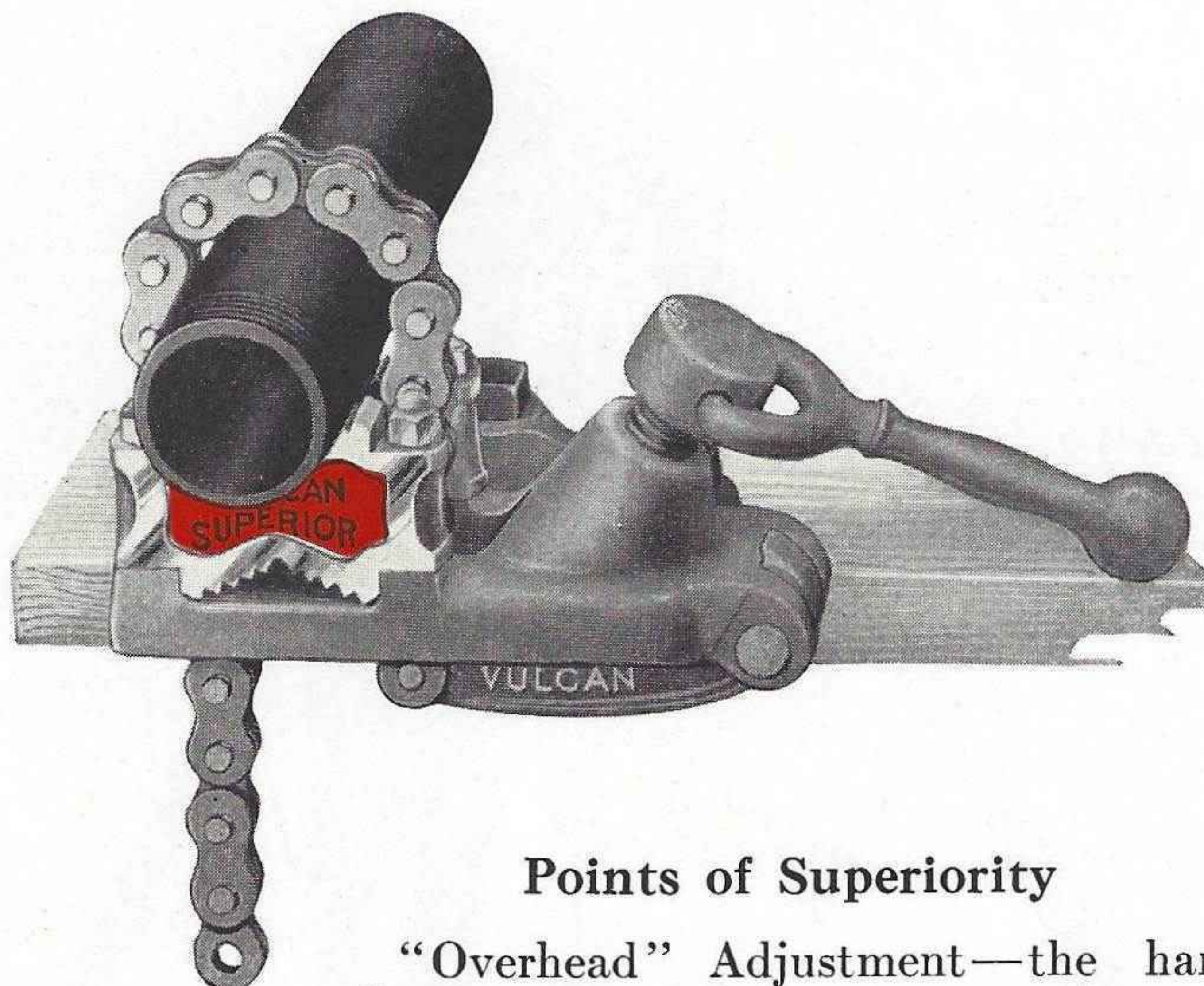
✦ REGISTERED TRADE MARK

♦ “VULCAN SUPERIOR”
 DROP-FORGED CHAIN PIPE VISE



METAL DISPLAY STAND

Supplied with short length of pipe and bolts and nuts for attaching vise No. 11. Space in base for circulars. Stand finished in bright orange. One in a carton; weight 6 3/4 lbs. Free to Dealers.



Points of Superiority

“Overhead” Adjustment—the handle is **on top** for easy operation.

Reversible Jaws—when the teeth first in use wear, simply remove the screws and turn the jaws over—double life.

Larger Capacity—each vise takes pipe 1/2" larger than other chain vises of similar size.

The “Vulcan Superior” Vise provides all the reliability of Williams’ old “Vulcan”—the **ORIGINAL** Chain Pipe Vise and the favorite for more than 30 years—together with the convenience of “overhead” adjustment. **Reversible** jaws, too, for longer life.

Wholly made from tough wrought steel—no castings are tolerated. **Drop-Forged** base, jaws, handle and chain-arm. The chains are of the same unsurpassed quality as those of the widely established “Vulcan” Chain Pipe Tongs. Unbreakable, rapid in action, positive in grip. Fully guaranteed.

Supplied in 2 styles of finish—see table. Packed one in a box.

Chrome-plated will be furnished, unless otherwise specified

No.	For Pipe, Sizes	Wt. Each, Lbs.	Jaws, Pair	Chain, with-out Arm	Screw	Handle with Screw	Chain Arm	WISE Complete	No.
Price, Chrome-plated Finish, Edges of Jaws Bright									
11	1/8 to 2 1/2	7	\$4.00	\$2.20	\$1.15	\$2.80	\$1.40	\$12.00	11
12	1/4 to 4 1/2	15	9.00	4.00	1.65	4.15	2.25	22.00	12
Price, Standard Finish—Shot-blasted, Orange Panel in Jaws									
11	1/8 to 2 1/2	7	\$3.30	\$2.00	\$1.00	\$2.35	\$1.20	\$10.00	11
12	1/4 to 4 1/2	15	7.70	3.60	1.45	3.50	1.85	19.00	12

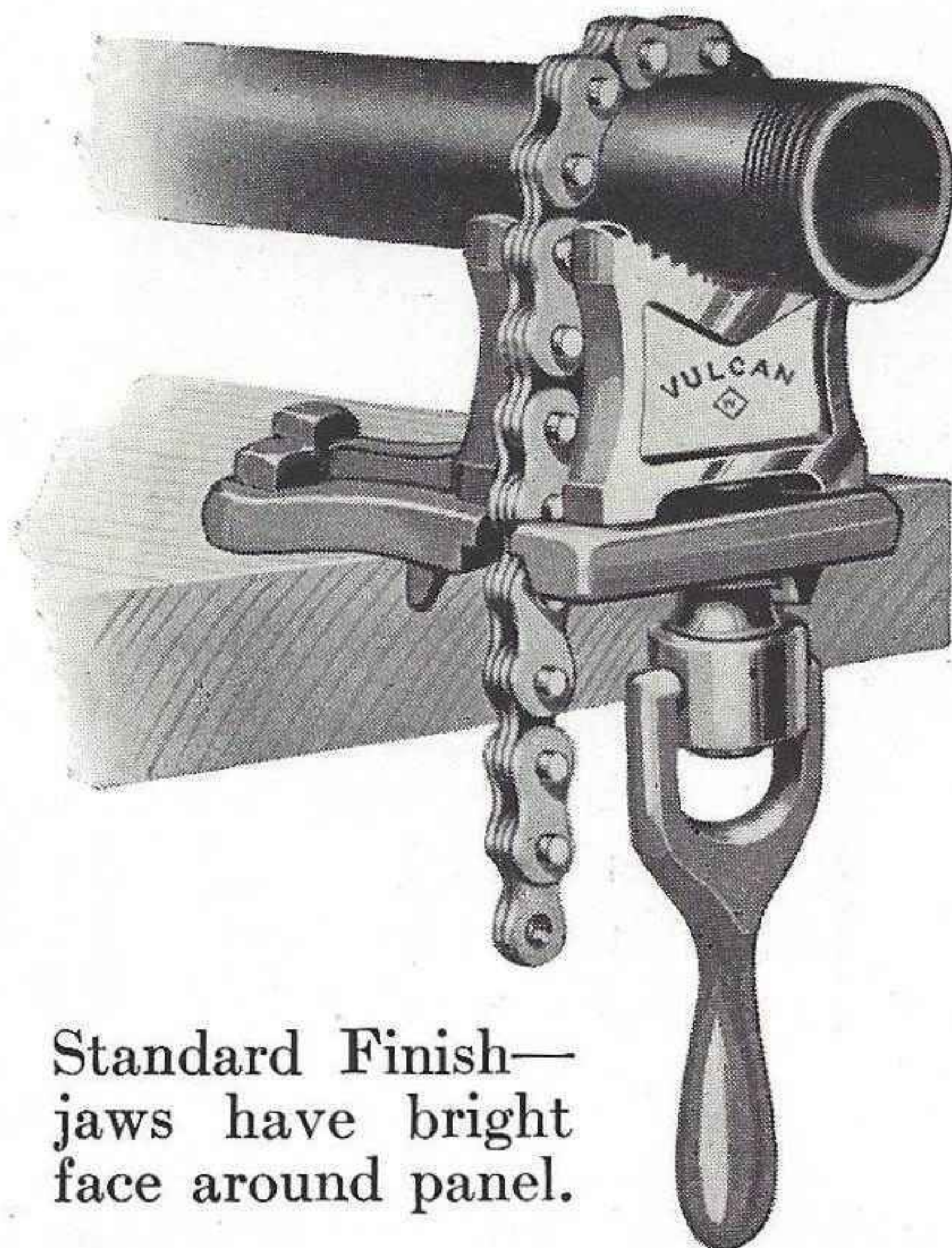
♦ REGISTERED TRADE MARK

GENUINE ♦ “VULCAN”

THE ORIGINAL

DROP-FORGED CHAIN PIPE VISE

For Holding Pipe, Bolts, Bars, Shafts, etc., from 1/8 to 8 inches in Diameter



Standard Finish—
jaws have bright
face around panel.

METAL

DISPLAY STAND

Supplied with short length of pipe and bolts and nuts for attaching vise No. 1. Space in base for circulars. Stand finished in bright orange. One in a carton; weight 4 lbs. Free to Dealers.



These Vises are unbreakable, light, compact, rapid in action and positive in gripping pipe. All are readily fastened to bench or post. The smaller sizes are well adapted for carrying by hand or in tool bag.

Adjustment is quickly effected by engaging the projecting rivets of the chain with a series of stepped bosses on the base, when the vise may be instantly locked in an unbreakable grip by a turn of the handle.

They are made entirely of wrought steel; the drop-forged jaws are of saw-tempered steel for file-sharpening. The chains are of same quality as those of our “Vulcan” Chain Pipe Tongs; all parts are fully guaranteed and replacements carried in stock.

All Vises are packed in individual boxes for convenient shelving. Six of Nos. 1 and 2 boxes to a carton.

Orders for Chains take Screw also, unless otherwise specified.

No.	For Pipe, Sizes	Size, Folded for Packing	Wgt. Each, Lbs.	PRICES, VISES AND EXTRA PARTS							No.
				Jaws Pair	Chain with Screw	Screw	Handle with Nut	Handle Only	Nut	Vise Complete	
1	1/8 to 2	4 x 5 x 6	4	\$ 3.00	\$ 2.50	\$.80	\$ 2.20	\$ 1.50	\$ 1.40	\$ 7.00	1
2	1/4 to 4	6 x 8 x 8	10	7.00	4.80	1.40	4.20	3.00	2.70	15.00	2
3	1/2 to 6	8 x 9 x 11	18	12.00	9.00	2.50	7.00	5.00	4.00	27.00	3
4	1/2 to 8	8 x 10 x 12	30	18.00	12.00	2.50	7.00	5.00	4.00	36.00	4

♦ REGISTERED TRADE MARK

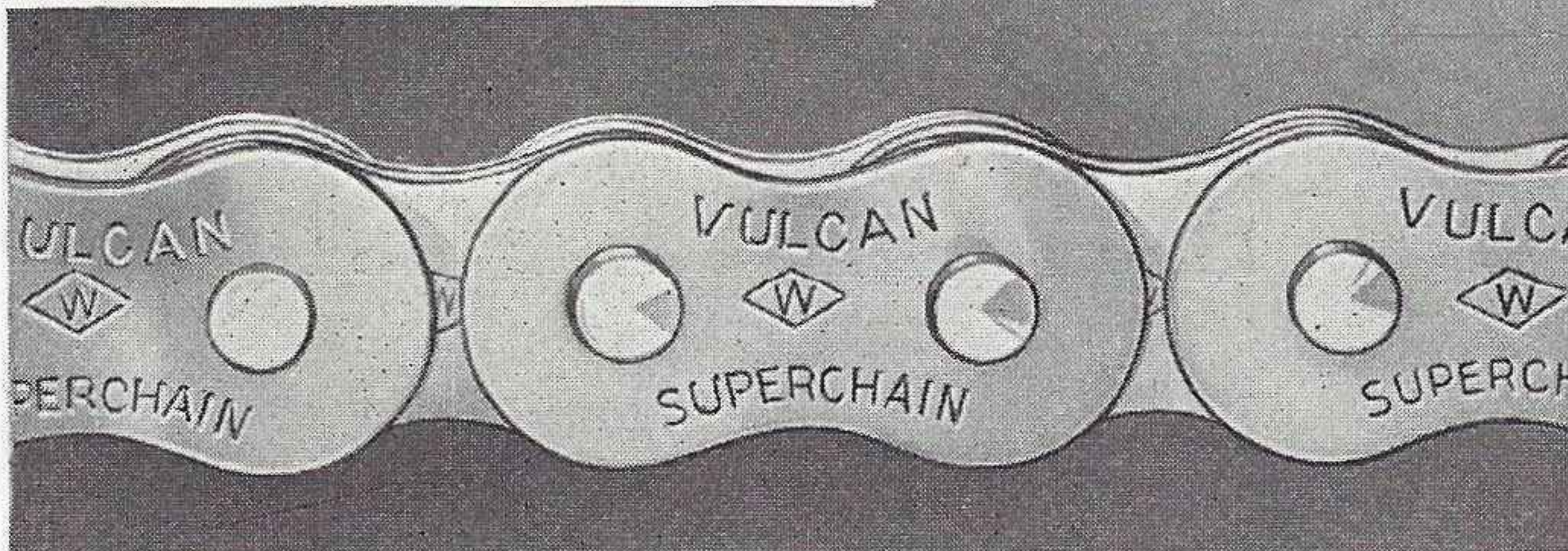
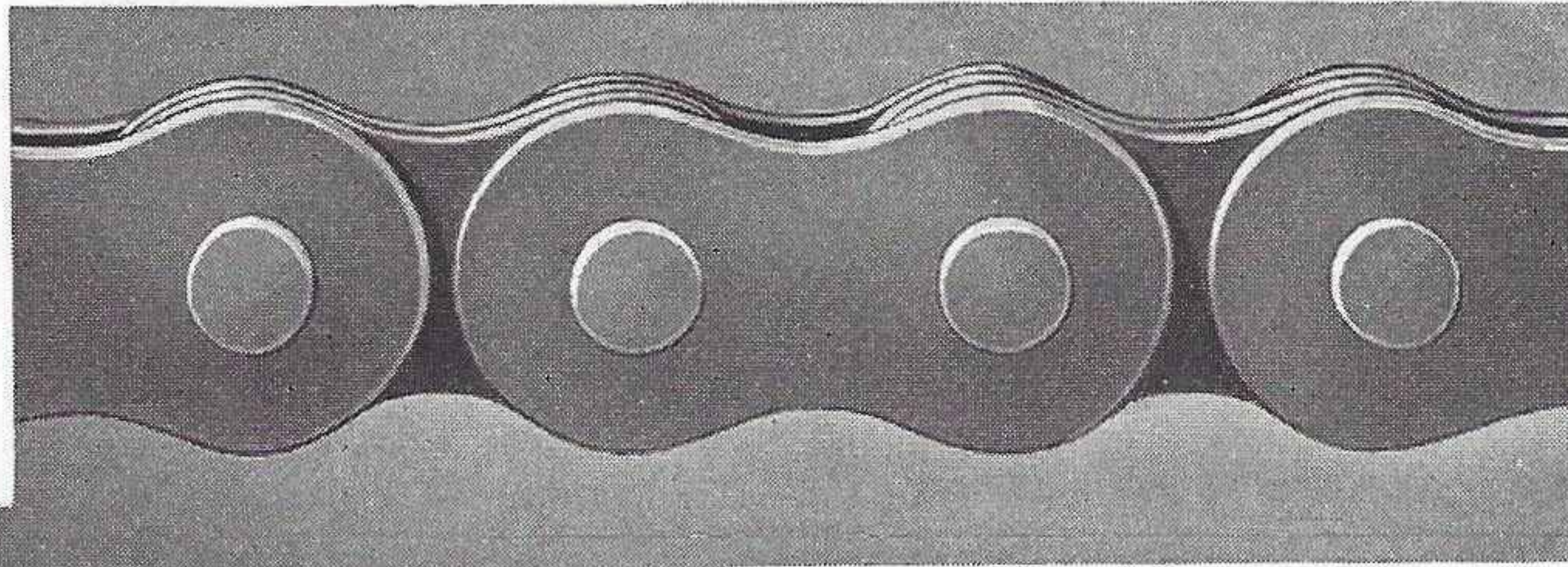
FLAT LINK CHAINS

FOR ALL WILLIAMS' "VULCAN" CHAIN PIPE TONGS

TWO TYPES

1. REGULAR

Plain links without any markings as illustrated at right. Natural, tumbled steel finish.



2. "SUPERCHAIN" ♦

Identified by the markings stamped on each link, as illustrated at left. Finished completely in cadmium-plate.

There are two different types of Flat Link Chains for Williams' Tongs—REGULAR and "SUPERCHAIN".

1. **Regular Chains** are made of special high tensile carbon steel and each is proof-tested as described below. Regular chains are interchangeable, size for size, on the following Tongs with which they are furnished as original equipment: "Vulcan", "Improved Vulcan", "Vulcan Superior" and "Vulcan Boll-Weevil". Regular Chains should *not* be used with "Supertongs", or with the "Boll-Weevil Zephyr".

2. **"Superchains"** (Flat Link type only) are made from Alloy Steel, heat-treated and cadmium-plated. Each "Superchain" is proof-tested as described below. Double-end replacement "Superchains" are interchangeable, size for size, on all Williams' Tongs with the one exception of "Boll-Weevil Zephyr". Due to extra length of "Zephyr" Superchain these chains are *not* interchangeable with any other pattern of tongs. They must be ordered specifically by number for exact "Zephyr" size desired.

Proof-Testing. Each Chain, regardless of type, is individually "proof-tested" on a standard tension machine *to two-thirds of its breaking strain*. Every chain so tested is stamped ○ on the drop-forged swinging-link and to it is attached a leaden seal, bearing our trademark ◇W. Every Flat Link Chain leaving our works *must* bear this mark and seal—the Proof of Quality—as evidence that it has passed our standardized proof-tests.

♦ REGISTERED TRADE MARK

“VULCAN SUPERIOR”[♦]

DROP-FORGED PIPE-AND-FITTINGS TONGS

For Both Pipe and Fittings, 1/8 to 12 in.



FOR FULL TONG LENGTHS, SEE TABLE

“V” Recess in Jaws
assures quick, positive
grip on fittings

In no other tongs on the market can all these desirable “Vulcan Superior” features be obtained:—

- Universal Service**—Two tools in one. Always ready “as is” for either pipe or fittings. Two tools as commonly used (one for pipe, one for fittings) are unnecessary.
- “V” Recess** in the jaws, combined with their general design, gives “Vulcan Superior” a greater number of grips or “bites”, both on pipe and fittings, than ordinary tongs. One-spot wear on the teeth is prevented and easier operation provided. Increased strength and greater ease in handling results.
- Reversible** pipe-and-fittings jaws. When the teeth first in use wear, simply unscrew the bolt and turn the jaws end-for-end.
- Chains****—Either Flat Link Chain, or Cable Chain, as desired.
- Proof-Testing.** Each Chain is individually “*proof-tested*” on a standard tension machine *to two-thirds of its breaking strain*. Every chain so tested is stamped **○** on the drop-forged swinging-link and to it is attached a leaden seal, bearing our trade mark **◊**. Every Flat Link Chain leaving our works must bear this mark and seal—the Proof of Quality—as evidence that it has passed our standardized proof-tests.

Wholly made from tough wrought steel; all parts are interchangeable.

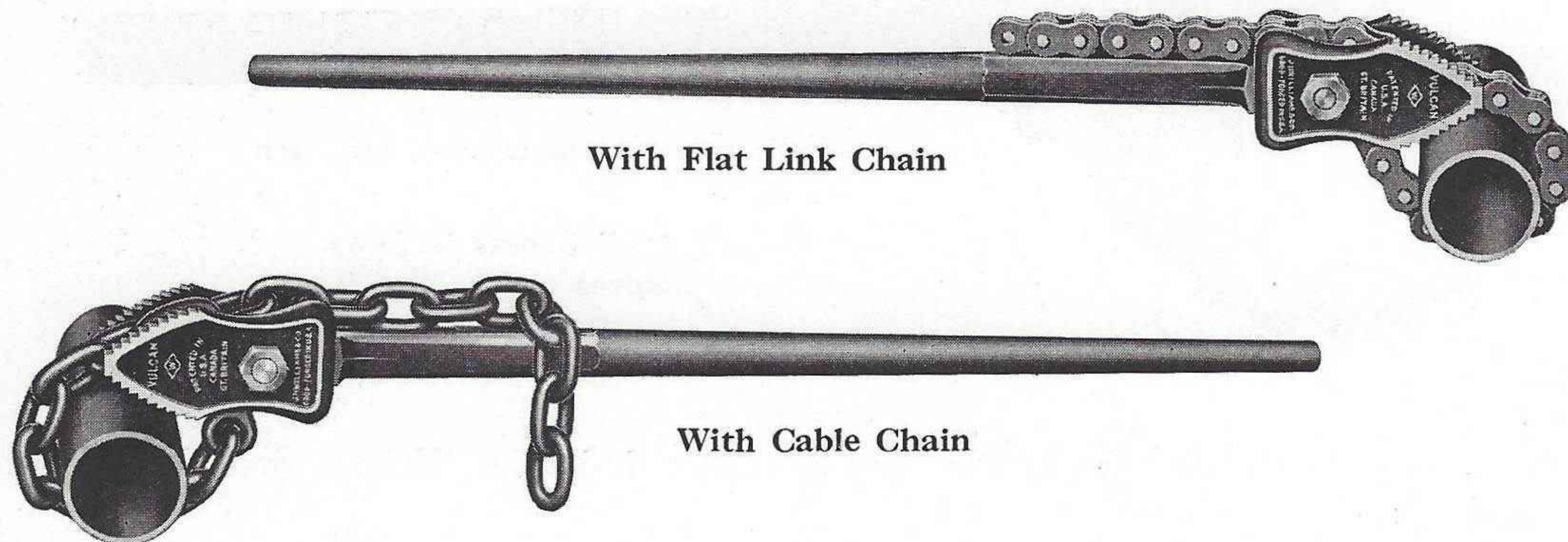
Number	0	1	2	3	3-1/2	4	5
For Pipe and Fittings, inches..	1/8 to 3/4	1/8 to 1-1/2	1/4 to 2-1/2	3/4 to 4	1 to 6	1-1/2 to 8	2 to 12
Extreme Length.....	13-3/4	20	27	37	44-1/2	50-1/2	64-1/2
Weight, lbs.....	2	5-1/2	10	17	26	34	54
Flat Link Chain, Breaking Strain, lbs.....	3,600	6,700	9,800	12,500	14,300	15,700	21,800
Cable Chain, Breaking Strain, lbs.....	1,800	6,000	9,000	12,500	14,300	15,700	21,800
PRICE, Complete.....	\$5.00	\$7.00	\$10.00	\$14.00	\$18.00	\$22.00	\$36.00
**Extra Chain.....	1.50	2.00	3.00	5.00	7.00	9.00	15.00
†Extra Jaws, per pair....	2.00	3.50	5.50	8.00	9.50	11.00	15.00
Extra Bolt & Nut, per set.	.28	.36	.46	.60	.70	.90	1.30

†Extra Jaws supplied in pairs unless otherwise called for. If only a single jaw is wanted, specify Right or Left.
 **See opposite page for data on Flat Link Chains.

[♦] REGISTERED TRADE MARK

GENUINE "VULCAN" ♦
 DROP-FORGED CHAIN PIPE TONGS

For Turning, or Holding 1/8 to 18 in. Pipe



The Original "Vulcan", introduced by Williams forty years ago, is still the oil-fields' favorite tongs for general work. All "Vulcans" are made entirely from tough wrought steel and are fully guaranteed.

Chains** swing from the center and can be used on either side of the jaws, thus reducing to the minimum, wear upon specific teeth.

Proof-testing. To insure proper service, each Flat Link Chain is "proof-tested" in a standard tension machine to *two-thirds of its breaking strain* listed in table. Each Chain, so tested, is stamped **W** on the drop-forged swinging link and to it is attached a leaden seal bearing our trademark **W** thus absolutely establishing the safety-factor and reliability of every tong.

The jaws are fastened to the handle by extra size through Bolt and U. S. Standard Nut.

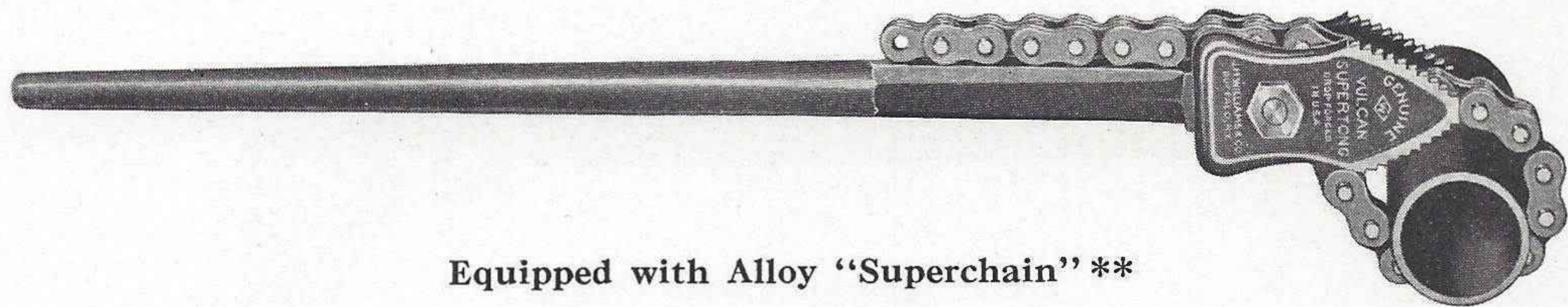
Number	10	11	12	13	13-1/2	14	15	15-1/2	16
Capacity									
Size Pipe, inches.....	1/8 to 3/4	1/8 to 1-1/2	1/4 to 2-1/2	3/4 to 4	1 to 6	1-1/2 to 8	2 to 12	4 to 16	4 to 18
Extreme Length.....	13-3/4	20	27	37	44-1/2	50-1/2	64-1/2	85	87
Weight.....	2	5-3/4	10	17	24	31	52	98	137
Flat Link Chain									
Length.....	9-1/2	13-1/2	17-1/2	22-1/2	32	40-1/2	55-1/2	68	74-1/2
Breaking Strain, lbs.....	3,600	6,700	9,800	12,500	14,300	15,700	21,800	30,000	40,000
Cable Chain									
Length.....	9-3/4	14-1/2	18	27	33-1/2	42	57	67	76
Breaking Strain, lbs.....	1,800	6,000	9,000	12,500	14,300	15,700	21,800	30,000	40,000
PRICE,									
Complete.....	\$5.00	\$7.00	\$10.00	\$14.00	\$18.00	\$22.00	\$36.00	\$60.00	\$80.00
**Extra Chain.....	1.50	2.00	3.00	5.00	7.00	9.00	15.00	30.00	40.00
Extra Jaws, pair.....	2.00	3.50	5.50	8.00	9.50	11.00	15.00	24.00	32.00
Extra Bolt and Nut, per set.	.28	.36	.46	.60	.70	.90	1.30	1.75	2.50

♦ REGISTERED TRADE MARK

**See page 100 for data on Flat Link Chains

THE "VULCAN SUPERTONG" ♦
 DROP-FORGED ALLOY AND HIGH-TENSILE STEEL
 HEAT-TREATED

For Turning, or Holding 1/8 to 18 in. Pipe



Equipped with Alloy "Superchain" **

"Supertongs" are a recent addition to Williams' line of Chain Pipe Tongs.

Design and structural features are identical with those of "Vulcan Tongs" described on the opposite page. "Supertongs", however, are forged from Alloy and High-tensile steel, and are heat-treated. They provide at least 50% greater strength than regular "Vulcan" Tongs of corresponding size, with no increase in bulk or weight.

"Supertongs" are equipped with "Vulcan Superchains", a new Williams' chain of Alloy Steel—heat-treated and cadmium-plated—having greatly increased strength and durability; see page 100. Each "Superchain" is individually "proof-tested" in a standard tension machine to *two-thirds of its breaking strain* listed in table. Each chain, so tested, is stamped **W** on the drop-forged swinging link and to it is attached a leaden seal bearing our trade mark **W**, thus absolutely establishing the safety-factor and reliability of every tong.

Finish:—Gray enamel; blue panel in Jaw, with bright faced edges. The "Superchains" are cadmium-plated.

Number	A 10	A 11	A 12	A 13	A 13-1/2	A 14	A 15	A 16
Capacity	1/8 to 3/4	1/8 to 1-1/2	1/4 to 2-1/2	3/4 to 4	1 to 6	1-1/2 to 8	2 to 12	4 to 18
Size Pipe, inches.....	13-3/4	20	27	37	44-1/2	50-1/2	64-1/2	87
Extreme Length.....	2	5-3/4	10	17	24	31	52	137
Weight.....								
Flat Link "Superchain"								
Length.....	9-1/2	13-1/2	17-1/2	22-1/2	32	40-1/2	55-1/2	74-1/2
Breaking Strain, lbs.....	5,800	10,800	15,600	20,000	22,800	25,000	35,000	64,000
PRICE								
Complete.....	\$7.50	\$10.50	\$15.00	\$21.00	\$27.00	\$33.00	\$54.00	\$120.00
**Extra "Superchain".....	2.50	3.50	5.50	8.50	11.50	14.50	24.00	62.00
Extra Jaws, pair.....	3.50	5.50	8.00	11.00	13.50	16.50	24.00	50.00
Extra Bolt and Nut, per set	.28	.36	.46	.60	.70	.90	1.30	2.50

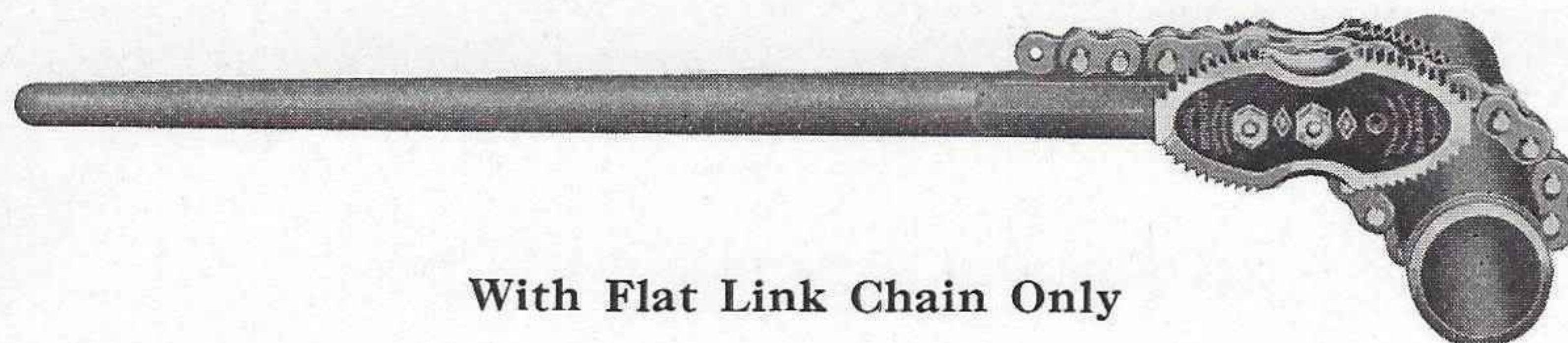
** See page 100 for data on Flat Link Chains.

♦ VULCAN, SUPERTONG AND SUPERCHAIN ARE REGISTERED TRADE MARKS

IMPROVED "VULCAN" ✦
 DROP-FORGED CHAIN PIPE TONGS

WITH DOUBLE-ENDED REVERSIBLE JAWS

For Turning, or Holding 1/8 to 12 in. Pipe




With Flat Link Chain Only

Improved "Vulcan" Tongs are similar in design to the original "Vulcan" except that Jaws are double-ended, and are reversible. When teeth first in use wear, Jaws may be quickly reversed, end-for-end, thus providing double service life.

Jaws are fastened to the handle with two unusually tough steel studs. The Tongs are wholly made of wrought steel and are fully guaranteed.

Each Chain** is proof-tested and *certified*, as follows:—

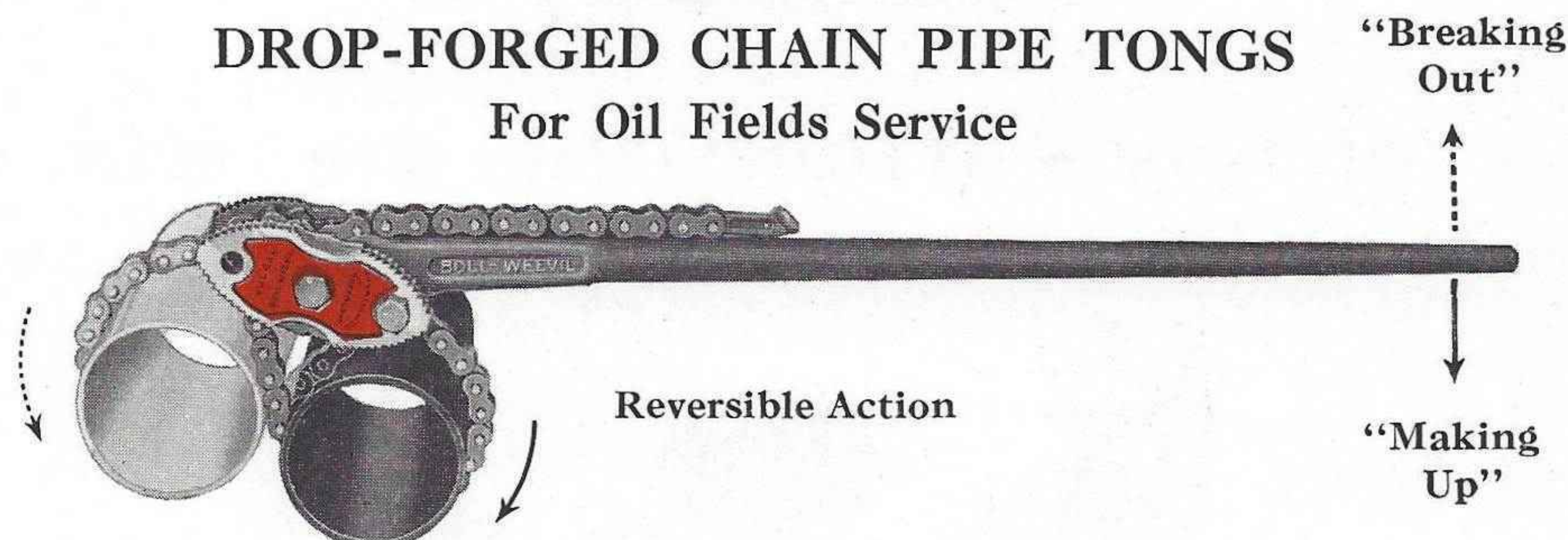
Proof-testing. To insure proper service, each Flat Link Chain is "*proof-tested*" in a standard tension machine to *two-thirds of its breaking strain* listed in table. Each Chain, so tested, is stamped ○ on the drop-forged swinging link and to it is attached a leaden seal bearing our trade mark , thus absolutely establishing the safety-factor and reliability of every tong.

Number	30	31	32	33	33-1/2	34	35
Capacity—Size Pipe, Inches	1/8 to 3/4	1/8 to 1-1/2	1/4 to 2-1/2	3/4 to 4	1 to 6	1-1/2 to 8	2 to 12
Extreme Length.....	13-3/4	20	27	37	44-1/2	50-1/2	64-1/2
Weight, lbs.....	2	5-3/4	10	17	24	31	52
Flat Link Chain.....							
Length.....	9-1/2	13-1/2	17-1/2	22-1/2	32	40-1/2	55-1/2
Breaking Strain, lbs....	3,600	6,700	9,800	12,500	14,300	15,700	21,800
PRICE.....							
Complete.....	\$ 5.00	\$ 7.00	\$ 10.00	\$ 14.00	\$ 18.00	\$ 22.00	\$ 36.00
**Extra Chain	1.50	2.00	3.00	5.00	7.00	9.00	15.00
Extra Jaws, pair.....	2.00	3.50	5.50	8.00	9.50	11.00	15.00
Extra Jaw Nuts and Studs, per set.....	.40	.50	.70	.90	1.10	1.40	1.80

✦ REGISTERED TRADE MARK

**See page 100 for data on Flat Link Chains

“VULCAN BOLL-WEEVIL” ♦
DROP-FORGED CHAIN PIPE TONGS
 For Oil Fields Service



Designed primarily to make flat pipe work and pipe line work easier; exceptionally efficient in trenches. No holding up of heavy tongs against the pipe from below. Quick, positive grip, but ready release.

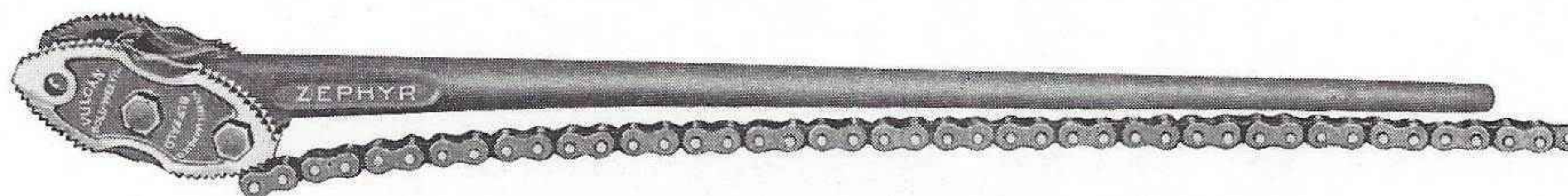
To operate, simply lay tongs on top of pipe and hook chain around it.

For “Making-Up”, slide tongs forward so that rear end of jaws engages pipe (see dark pipe in illustration) and push handle down.

For “Breaking-Out”, pull tongs back to engage forward teeth with pipe (see phantom pipe in illustration) and pull up on handle.

Jaws are reversible for double life. Each Chain** is “proof-tested” and certified. Four Tong sizes listed below under “Boll-Weevil”.

“BOLL-WEEVIL ZEPHYR” ♦
LIGHT WEIGHT—HEAT-TREATED
 Equipped with Alloy “Superchain”**



Exactly the same design, structural and utility features as the regular “Vulcan Boll-Weevil” described above, but stronger and lighter in weight, capacity for capacity. Forged from special high-tensile steel, heat-treated. Equipped with “Superchains”,** all individually “proof-tested” and certified.

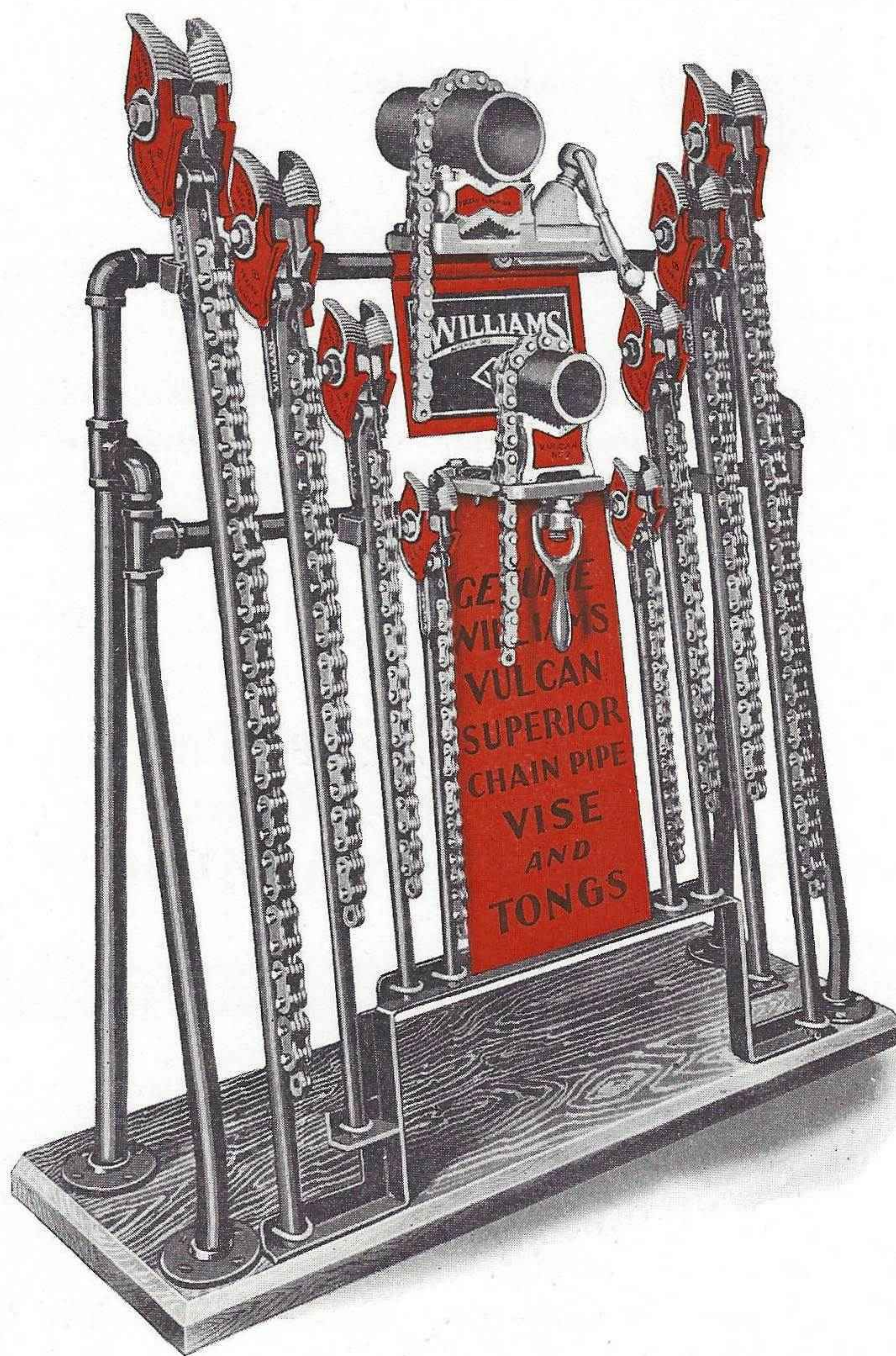
Finish:—Handle and panel in Jaws—gray enamel; Jaws—bright faced edges, blue backs; Chains—cadmium-plated.

Number	“BOLL-WEEVIL”				“ZEPHYR”		
	23	23-1/2	24	25	123-1/2	124	125
Capacity—Size Pipe, inches.	3/4 to 4	1 to 6	1-1/2 to 8	2 to 12	3/4 to 6	1 to 8	1-1/2 to 12
Extreme Length.....	37	44-1/2	50-1/2	64	41	47	57-1/2
Weight, lbs.....	19	28	41	65	20-3/4	30-1/4	44-3/4
Chain, Breaking Strain, lbs.	12,500	14,300	15,700	21,800	20,000	22,800	25,000
PRICE, Complete Tongs, ea.	\$14.00	\$18.00	\$22.00	\$36.00	\$20.00	\$26.00	\$36.00
**Extra “Superchain”, each..	5.00	7.00	9.00	15.00	10.50	14.00	19.00
Extra Jaws, pair.....	8.00	9.50	11.00	15.00	8.50	10.50	13.00

**See page 100 for data on Flat Link Chains.

♦ VULCAN, BOLL-WEEVIL, ZEPHYR AND SUPERCHAIN ARE REGISTERED TRADE MARKS.

DISPLAY RACK
FOR
WILLIAMS' ♦ "VULCAN" CHAIN PIPE TOOLS



An attractive method of display and an efficient aid to salesmen in demonstrating Williams' "Vulcan" Chain Pipe Tools. It makes the usual dark-corner storage space unnecessary and increases the interest of both buyer and seller in this stock.

The rack is made of wrought iron pipe, painted black with metal panels enameled in orange, and occupies about 14 x 38" floor space—3 ft. high. It is loaned only to dealers for use with Williams' "Vulcan" Chain Pipe Tongs and Vises.

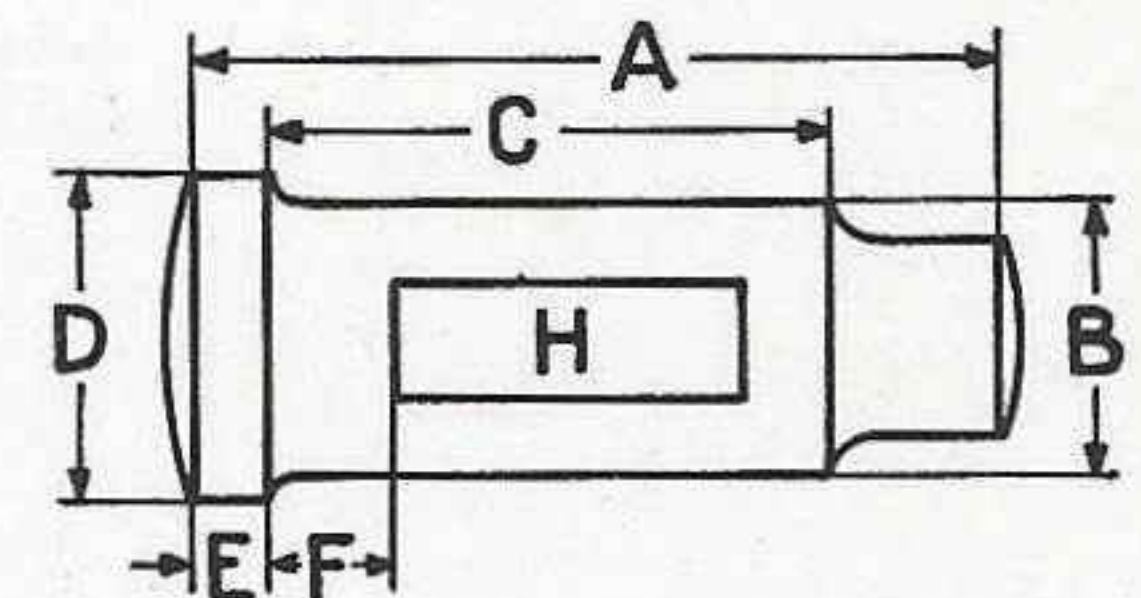
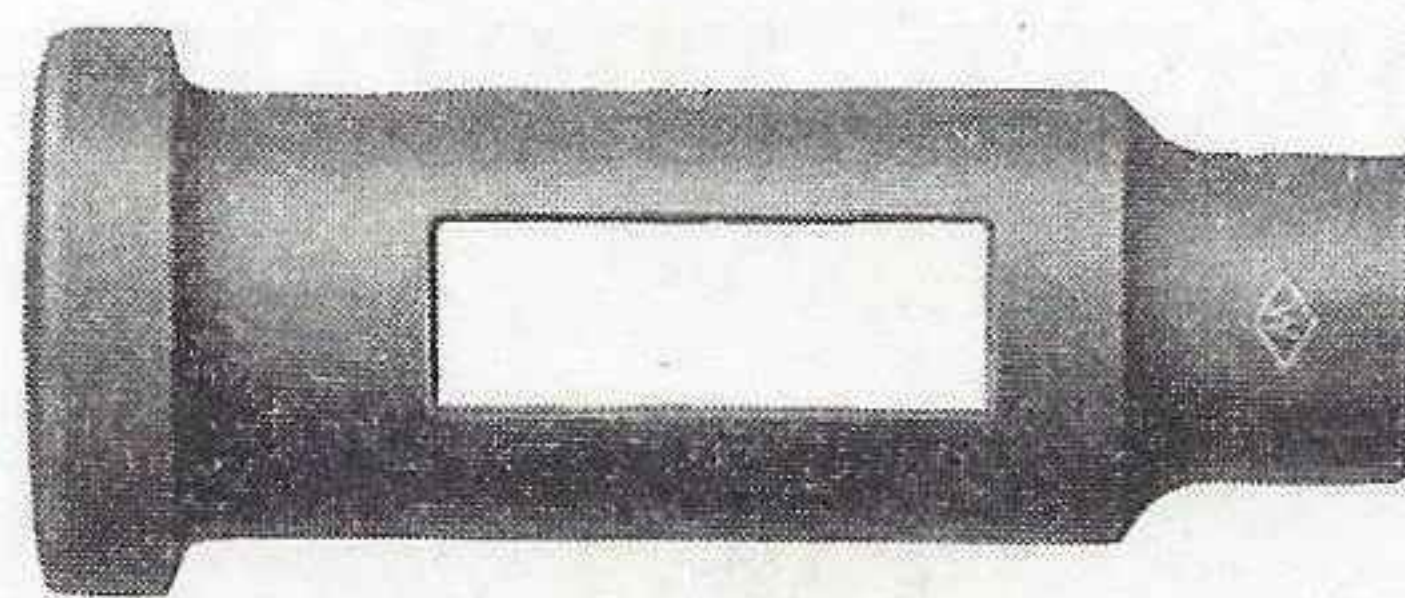
♦ REGISTERED TRADE MARK

★“VULCAN”

TOOL POST FITTINGS

UNFINISHED

TOOL POSTS
Openings
Punched Out



Number	5	10	20	23	28	30	40	50	60
Length, A.....	2 15/16	4 1/16	4 9/16	5	5 3/16	5 1/4	6 5/16	7 3/8	8 3/4
Body									
Diameter, B..	1 1/32	1 1/4	1 5/8	1 7/16	1 9/16	1 13/16	2 1/16	2 1/4	2 31/32
Length, C....	2	2 7/8	3 1/4	3 1/2	3 11/16	3 3/4	4 3/8	5	6
Base									
Diameter, D..	1 7/32	1 5/8	2 1/8	1 7/8	2 1/16	2 5/16	2 5/8	2 15/16	3 5/8
Thickness, E..	5/16	1/4	7/16	5/16	5/16	1/2	9/16	5/8	3/4
Base to									
Opening, F...	7/16	1/2	13/16	5/8	5/8	15/16	1 3/16	1 3/8	1 1/2
Opening	{ 1 5/16	1 15/16	1 7/8	2 1/2	2 11/16	2 1/8	2 1/2	2 7/8	3 9/16
Size, H.....	x 7/16	x 19/32	x 11/16	x 21/32	x 11/16	x 3/4	x 7/8	x 15/16	x 1
For use with									
Wedge.....	5	10	15 & 18	15 & 18	15 & 18	18 & 20	30 & 40	60	
For use with									
Ring.....	5	10	11	14	18	20	30 & 40	60	
PRICE.....	\$.82	\$1.05	\$1.40	\$1.65	\$1.90	\$2.10	\$3.05	\$3.95	\$7.95

TOOL POST
WEDGES



For Changing
Angles of
Lathe Tools

Several sets of Dies are available for other similar Wedges. Blueprints and prices on application.

Number	5	10	11	15	18	20	30	40	60	65
Length.....	2 13/32	3	3 3/8	3 3/8	3 7/8	3 7/8	4 3/8	4 7/8	5 1/4	5 5/16
Width.....	13/32	9/16	1/2	5/8	5/8	11/16	3/4	13/16	15/16	7/8
Extreme Thickness..	11/32	31/64	25/64	7/16	15/32	17/32	1/2	21/32	3/4	29/32
Radius.....	3	2 7/8	4 5/8	4 5/8	4 1/2	4 3/4	5 1/2	5 3/4	6	5
For Use with Post. .	5	10	20	20	20 & 30	30	40	40	50	
For Use with Ring...	5	10	11	11	11 & 20	20	30	40	60	
PRICE.....	\$.27	\$.30	\$.30	\$.33	\$.34	\$.35	\$.40	\$.47	\$.56	\$.61



TOOL POST
RINGS

For Changing
Angles of
Lathe Tools

Number	5	10	11	14	18	20	30	40	60
Diameter, Outside.....	2 1/4	2 15/16	3	3 3/16	3 7/16	3 1/2	3 1/2	4	4 1/2
Diameter, Hole.....	1 1/16	1 5/16	1 5/8	1 7/16	1 9/16	1 3/4	2	2	2 3/16
Thickness, Edge.....	3/8	7/16	7/16	5/8	11/16	9/16	3/4	3/4	3/4
Radius of Concave.....	3	2 7/8	4 5/8	4 5/8	4 1/2	4 3/4	5 1/2	5 3/4	6
For Use with Post.	5	10	20	23	28	30	40	40	50
For Use with Wedge. .	5	10	11 & 15	18 & 20	18	18 & 20	30	40	60
PRICE.....	\$.33	\$.47	\$.52	\$.75	\$.94	\$.82	\$1.00	\$1.15	\$1.50

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

✦ "AGRIPPA"

DROP-FORGED TOOL-HOLDERS

"THE HOLDERS THAT HOLD"

No solid, forged tool for lathe, planer, shaper etc., can compare in convenience, efficiency and economy with properly designed and manufactured Tool Holders. They save practically all waste of costly High Speed Steel, eliminate all dead stock of heavy forged tools, do away with all blacksmith labor, most of the grinding and reduce loss in time of men and machines waiting for tools substantially to zero.

Williams' "Agrippa" System combines all the merits of the various makes of Tool Holders with additional advantages of their own:—

Holders, or shanks, all drop-forged from a strong, tough grade of carefully selected steel, are specially heat-treated and hardened. These processes develop maximum resistance to all wear and also the sturdy strength necessary to overcome the pushing thrust imposed upon the Cutters. The nose of the Holders is chamfered to permit convenient use in cramped quarters, where space is limited.

Cutter-holding channel is unusually accurate and long. It provides an absolutely true and rigid seat for the Cutter and assures a chatter-proof tool. No breaking of costly high speed steel bits.

"*Agrippa*" *Cutting-Off & Side-Tools* provide unequalled convenience and economy—one Holder takes *both* styles of blade.

Each "Agrippa" Boring-Tool holds securely many sizes of Bars, without requiring sleeves, or bushings. This is often a great convenience, since any size bar, within the capacity of the holder, can be inserted instantly without waiting to locate loose parts that have been lost, or mislaid.

(Continued on following page)

★“AGRIPPA”

DROP-FORGED TOOL-HOLDERS

“THE HOLDERS THAT HOLD”

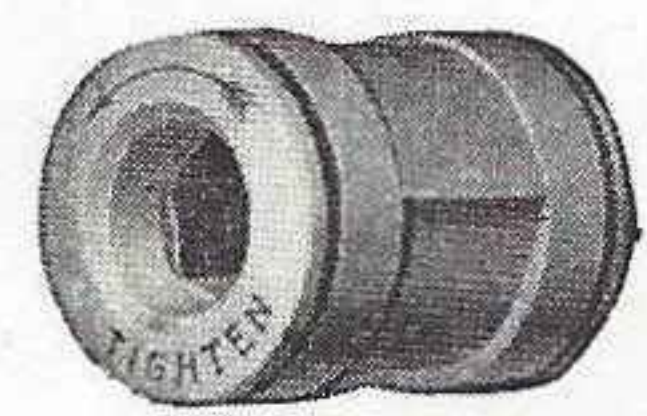
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“Agrippa” Planing-Tools, because of their unique design, provide 24 different angles of cutter adjustment instead of the usual 5—a real advantage when working in close quarters. Reversal of the Holder in the tool post, so as to bring the cutting point behind the center of the shank, makes a most efficient “goose neck” tool.

“Agrippa” Cam-fastening, supplied with Cutting-Off & Side-Tools, Threading-Tools Nos. S-50 to S-52 and Drop-Head Turning Tools, is furnished from hardened and tempered tool steel in either Hex Head, or Headless form of cam. This simple and most efficient device is indestructible and provides a particularly dependable cutter-fastening.



HEX HEAD



HEADLESS

“Agrippa” Cutters are all made from High Speed Steel. Since those for Turning and Planing Tools are cut to the “diamond-point” form or bevel, they care for the most common requirements with a minimum of grinding. All Cutting-Off, Side and Threading Cutters are finished, ready for use.

Hardening Cutters. Only the most modern and efficient equipment is used in hardening “Agrippa” Cutters. The furnaces are electrically heated, with atmosphere, temperature and time all under absolute and accurate control. Variations in hardness, beyond our standardized close limits, are entirely eliminated and consistent high quality, with durable cutting edges, maintained.

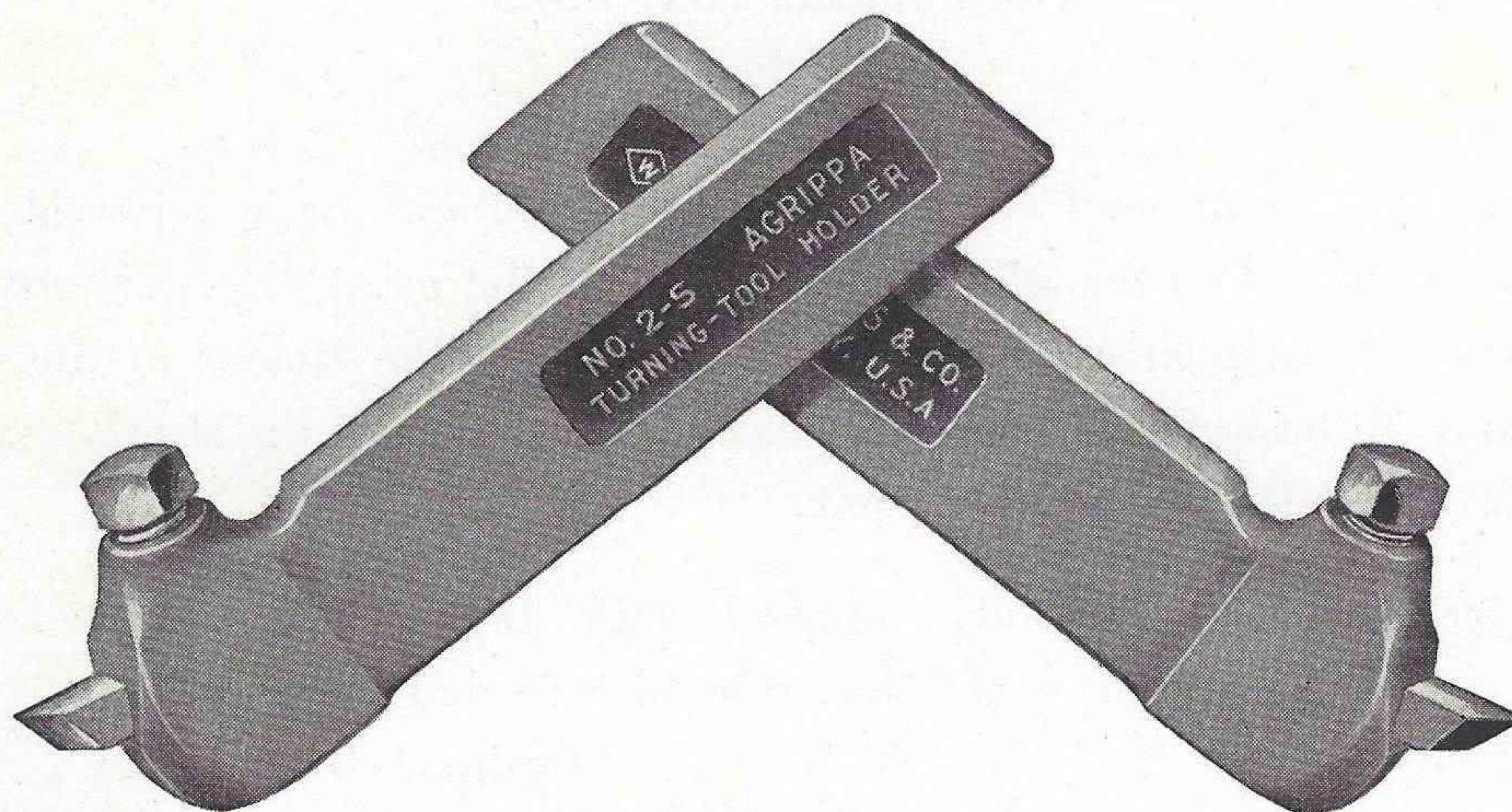
**All Williams’ “Agrippa” Tool Holders
are Fully Guaranteed**

★ REGISTERED TRADE MARK

✦ "AGRIPPA"
 TURNING-TOOL HOLDERS

With Straight Shank

"THE HOLDERS THAT HOLD"



Furnished With Cutter and Finished Wrench

For general description, see page 108

Holders have nose chamfered and are specially heat-treated and hardened.

The cutter-holding channel is unusually accurate and long. It provides an absolutely true and rigid seat for the cutter and assures a chatter-proof tool. No breaking of high speed steel bits.

(Continued on following page)

Number	Holder, Size	Cutter Size, Square	PRICE		Number
			Cutters Only, High Speed Steel	Complete Tool, with High Speed Cutter	
00-S	5/16 x 3/4 x 4 1/2	3/16	\$.15	\$ 2.70	00-S
0-S	3/8 x 7/8 x 5	1/4	.20	2.85	0-S
1-S	1/2 x 1 1/8 x 6	5/16	.35	3.25	1-S
2-S	5/8 x 1 3/8 x 7	3/8	.55	4.00	2-S
3-S	3/4 x 1 5/8 x 8	7/16	.90	5.40	3-S
4-S	7/8 x 1 3/4 x 9	1/2	1.30	6.90	4-S
5-S	1 x 2 x 11	5/8	2.35	9.75	5-S
6-S	1 1/4 x 2 1/4 x 13	3/4	3.85	13.50	6-S

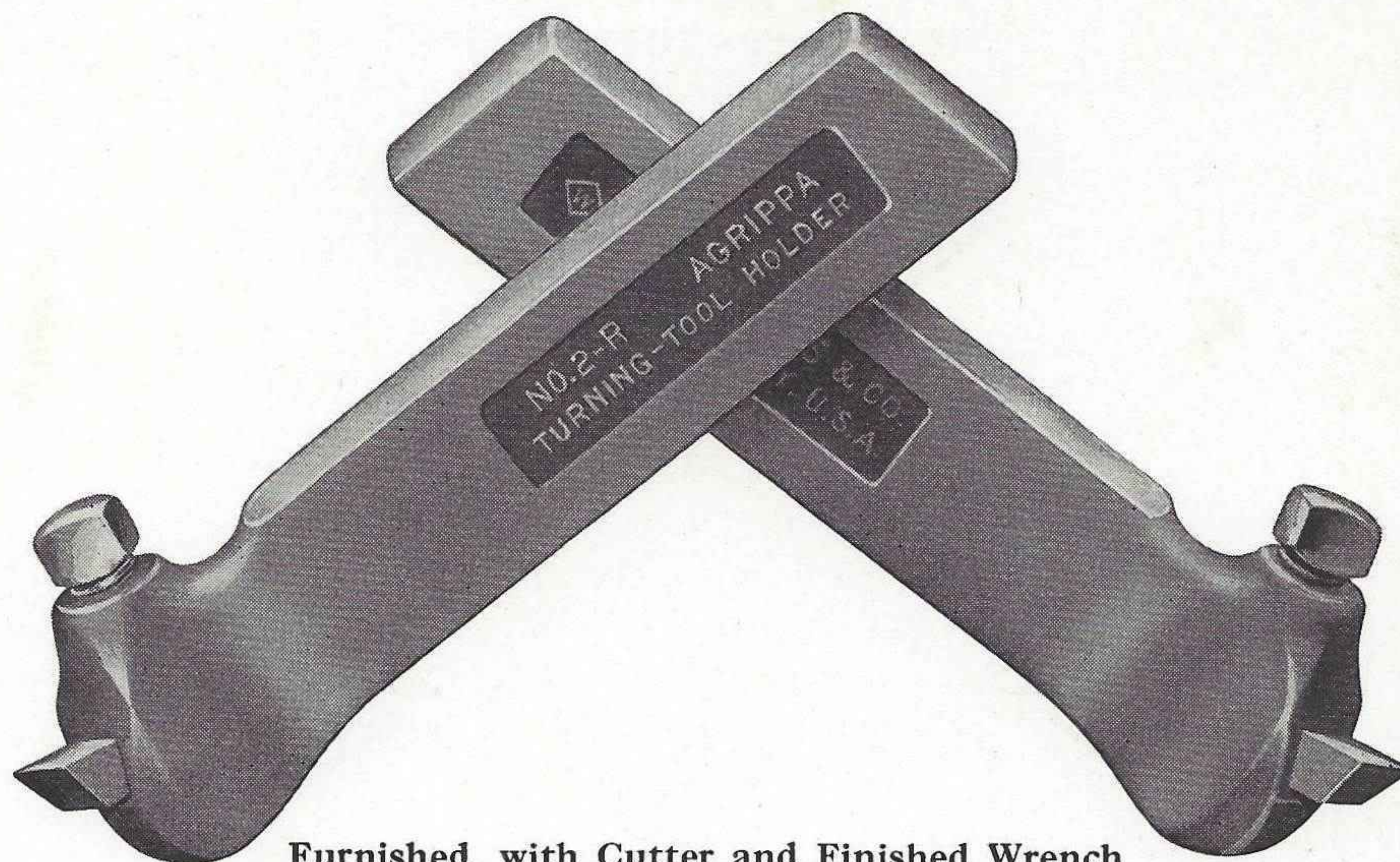
Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

✦ "AGRIPPA"
 TURNING-TOOL HOLDERS

With Right and Left Hand Offset Shanks

"THE HOLDERS THAT HOLD"



Furnished with Cutter and Finished Wrench

For general description see page 108.

(Continued from previous page)

The Set Screws, made of a fine grade of Alloy Steel, are accurately machined and carefully heat-treated and hardened. They are unusually tough and strong and provide the maximum efficiency in cutter fastening.

The "diamond-point" form in which the High Speed Cutters are furnished requires the minimum of grinding.

Number		Holder, Size	Cutter Size, Square	PRICE		Number	
Right Hand	Left Hand			Cutters Only, High Speed Steel	Complete Tool, With High Speed Cutter	Right Hand	Left Hand
00-R	00-L	5/16 x 3/4 x 4 1/2	3/16	\$.15	\$ 2.70	00-R	00-L
0-R	0-L	3/8 x 7/8 x 5	1/4	.20	2.85	0-R	0-L
1-R	1-L	1/2 x 1 1/8 x 6	5/16	.35	3.25	1-R	1-L
2-R	2-L	5/8 x 1 3/8 x 7	3/8	.55	4.00	2-R	2-L
3-R	3-L	3/4 x 1 5/8 x 8	7/16	.90	5.40	3-R	3-L
4-R	4-L	7/8 x 1 3/4 x 9	1/2	1.30	6.90	4-R	4-L
5-R	5-L	1 x 2 x 11	5/8	2.35	9.75	5-R	5-L
6-R	6-L	1 1/4 x 2 1/4 x 13	3/4	3.85	13.50	6-R	6-L

Weights given pages 163 to 170.

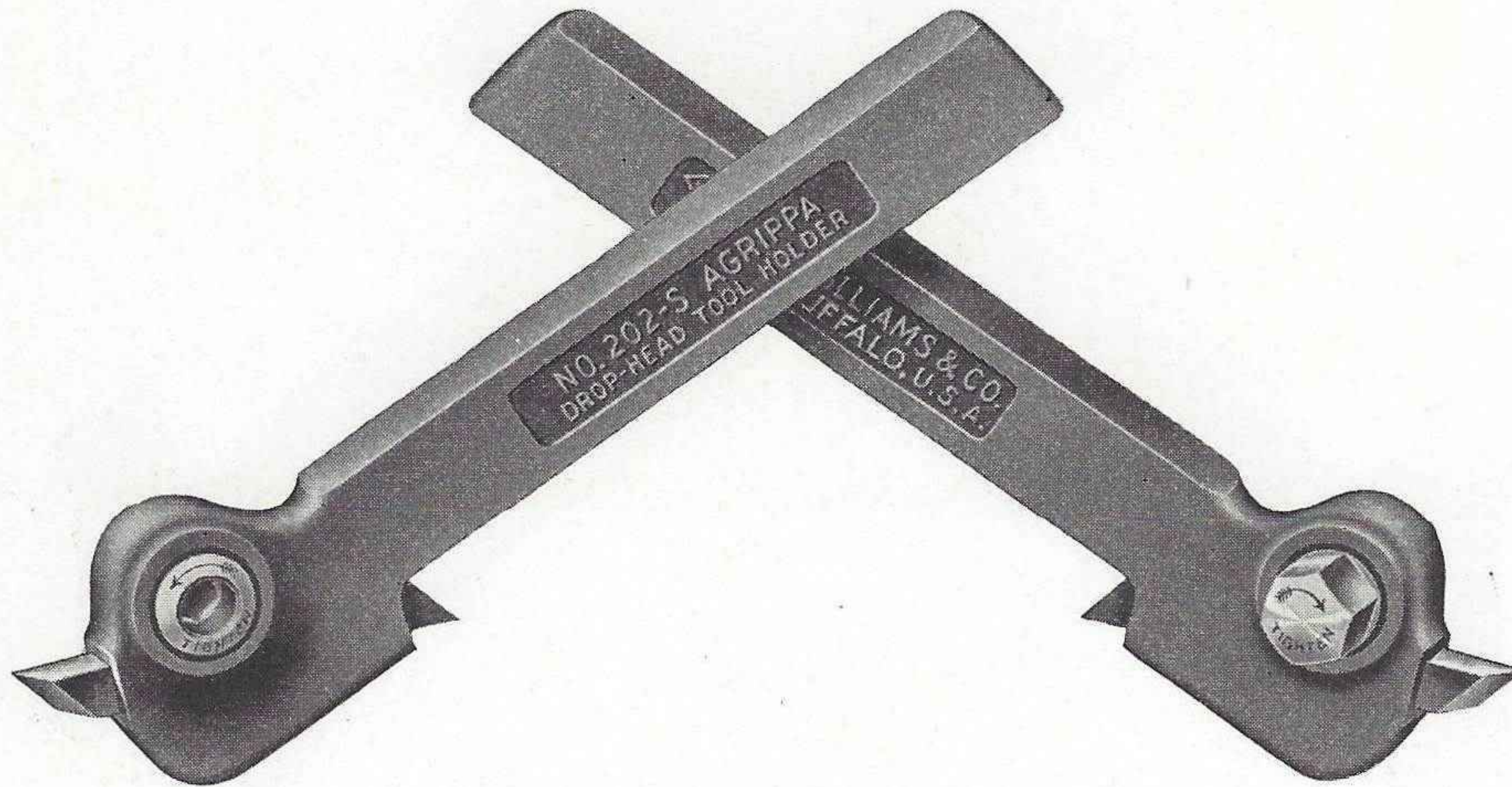
✦ REGISTERED TRADE MARK

★“AGRIPPA”

DROP-HEAD TURNING-TOOL HOLDERS

With Straight Shank

“THE HOLDERS THAT HOLD”



Furnished with either type of Cam, Cutter and Finished Wrench

For general description, see page 108.

Designed for use on lathes with clamp-tool rests and low centers, and excellently adapted to shaper and planer work.

The cutter-holding channel is unusually accurate. It provides an absolutely true and rigid seat for the cutter and assures a chatter-proof tool. No breaking of high speed steel bits.

The Cam-fastening is always rapid and positive—the greater the pressure the tighter

(Continued on following page)

Hex Head Cam will be furnished, unless otherwise specified.

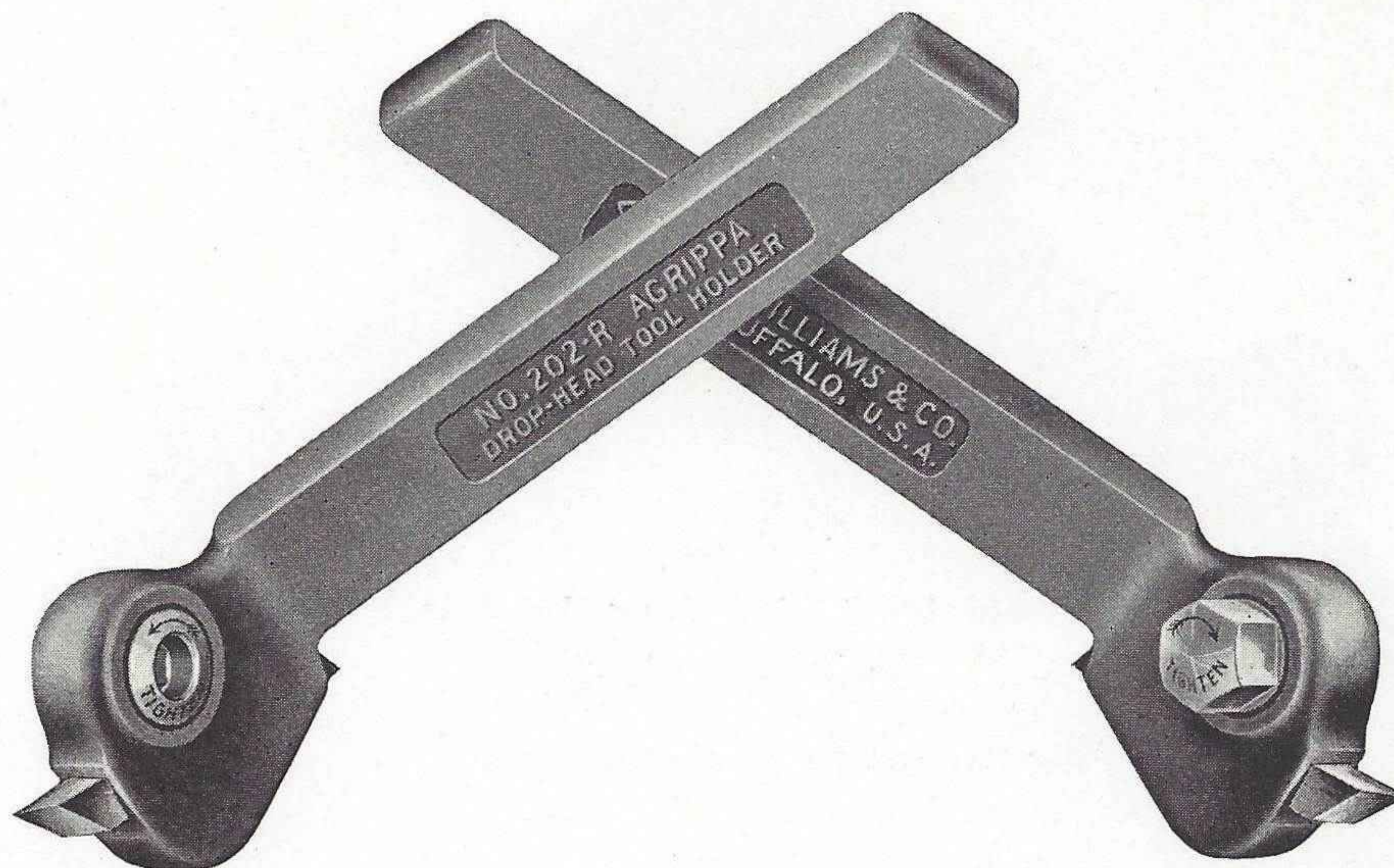
No.	Holder, Size	Cutter Size, Square	Height from Bottom of Shank to Cutter Point	PRICE			No.
				Extra Inter- changeable Cams, Each	Cutters Only, High Speed Steel	Complete Tool, with High Speed Cutters	
0200-S	7/16 x 9/16 x 6	3/16	9/16	\$.90	\$.15	\$ 2.70	0200-S
200-S	9/16 x 11/16 x 6 7/8	1/4	11/16	.99	.20	2.85	200-S
201-S	3/4 x 7/8 x 7 7/8	5/16	13/16	1.10	.35	3.25	201-S
202-S	7/8 x 1 x 8 7/8	3/8	15/16	1.22	.55	4.00	202-S
204-S	1 1/8 x 1 1/4 x 11	1/2	1 3/16	1.50	1.30	6.90	204-S

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

★ “AGRIPPA”
 DROP-HEAD TURNING-TOOL HOLDERS

With Right and Left Hand Offset Shanks
 “THE HOLDERS THAT HOLD”



Furnished with either type of Cam, Cutter and Finished Wrench

(Continued from previous page)

the lock. It offers full freedom for operation without removal of Holder from tool post, and imposes no obstruction to cutting facilities. Either Hex Head or Headless Cam is furnished; both types are interchangeable.

The “diamond-point” form in which the High Speed Cutters are furnished requires the minimum of grinding.

Hex Head Cam will be furnished, unless otherwise specified.

Number		Holder, Size	Cutter Size, Square	Height from Bottom of Shank to Cutter Point	PRICE			Number	
Right Hand	Left Hand				Extra Inter-change-able Cams, Each	Cutters Only, High Speed Steel	Complete Tool, with High Speed Cutter	Right Hand	Left Hand
0200-R	0200-L	7/16 x 9/16 x 5 3/4	3/16	9/16	\$.90	\$.15	\$ 2.70	0200-R	0200-L
200-R	200-L	9/16 x 11/16 x 6 5/8	1/4	11/16	.99	.20	2.85	200-R	200-L
201-R	201-L	3/4 x 7/8 x 7 5/8	5/16	13/16	1.10	.35	3.25	201-R	201-L
202-R	202-L	7/8 x 1 x 8 1/2	3/8	15/16	1.22	.55	4.00	202-R	202-L
204-R	204-L	1 1/8 x 1 1/4 x 10 1/2	1/2	1 3/16	1.50	1.30	6.90	204-R	204-L

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

✦ "AGRIPPA"
 CUTTING-OFF AND SIDE-TOOL HOLDERS

For Interchangeable Blades. Right Hand, Straight Shank

"THE HOLDERS THAT HOLD"



Furnished with either Headless
 or Hex Head Cam, Finished
 Blade and Wrench

For General Description, see page 108.

One Holder takes both Cutting-off and Side Blades, providing unequaled convenience and economy.

The Cam-fastening is always rapid and positive—the greater the pressure the tighter the lock. It offers full freedom for operation without removal of Holder from tool post,

(Continued on following Page)

Cutting-off Blade and Hex Head Cam will be furnished, unless otherwise specified.

No.	Holder, Size	Cutter Blade, Finished Size		PRICE				No.
		For Cutting-off Tool	For Side Tool	Extra Finished Cutting- off Blade, High Speed Steel	Extra Finished Side Blade, High Speed Steel	Complete Holder		
						With Cutting- off Blade, High Speed Steel	With Side Blade, High Speed Steel	
020-R	5/16 x 13/16 x 4 5/8	5/64 x 1/2	1/8 x 1/2	\$.60	\$.60	\$ 2.85	\$ 2.85	020-R
20-R	3/8 x 31/32 x 5 1/4	3/32 x 5/8	5/32 x 5/8	.65	.90	3.00	3.40	20-R
21-R	1/2 x 1 3/16 x 6 1/4	1/8 x 3/4	3/16 x 3/4	.90	1.40	3.60	4.35	21-R
22-R	5/8 x 1 3/8 x 7 1/8	1/8 x 7/8	1/4 x 7/8	1.30	2.30	4.50	6.00	22-R
23-R	3/4 x 1 5/8 x 8 3/8	3/16 x 1	5/16 x 1	2.15	3.40	6.00	7.85	23-R
24-R	7/8 x 1 3/4 x 9 3/8	3/16 x 1 1/8	3/8 x 1 1/8	2.90	5.00	7.50	10.65	24-R
†25-R	7/8 x 1 3/4 x 9 3/8	1/4 x 1 1/8	.....	4.00	.....	8.60	.....	†25-R

† This is 24-R Holder fitted with No. 25 Blade, making it equivalent to No. 25 Cutting-off Tool.

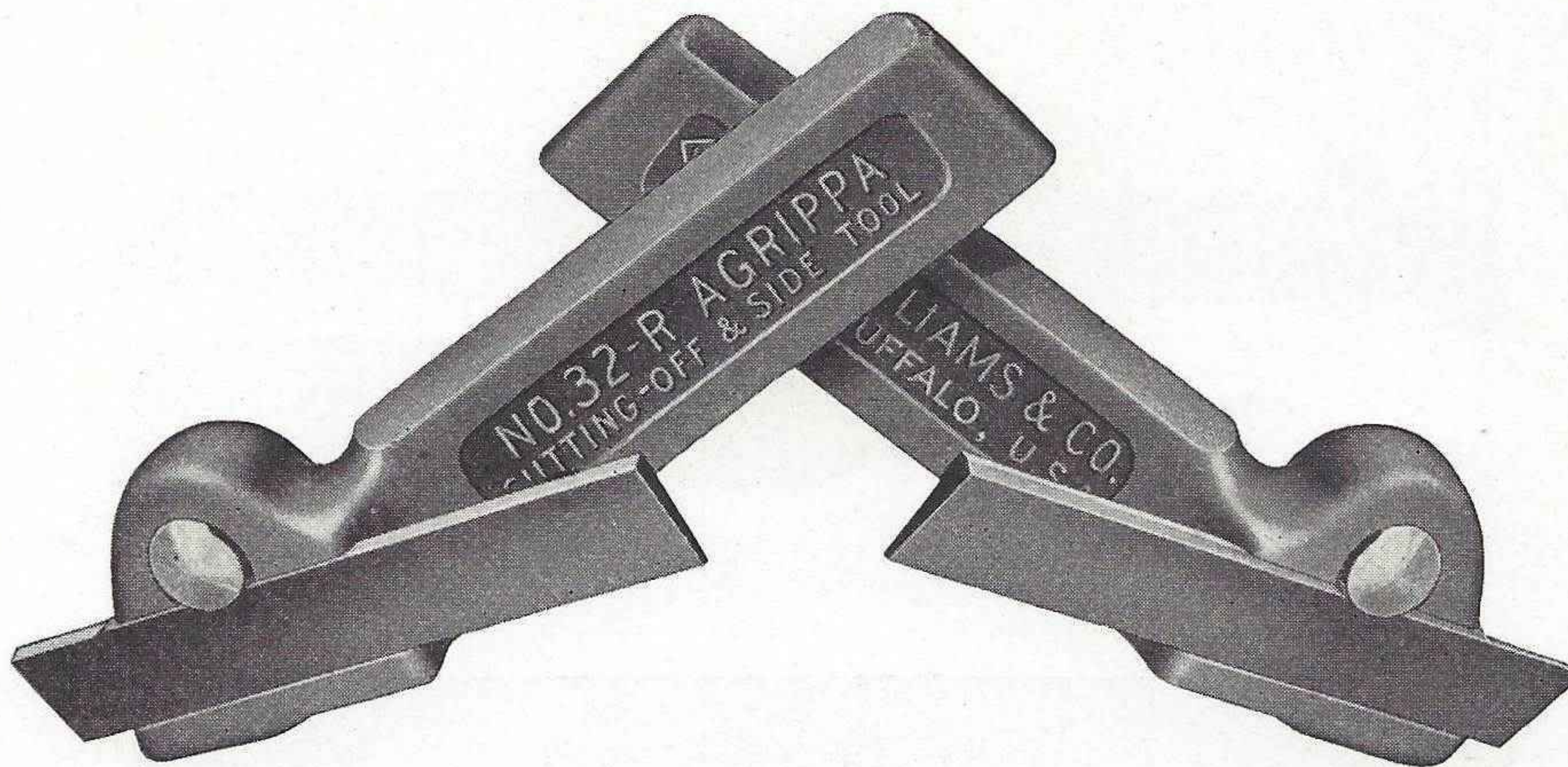
Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

★ "AGRIPPA"
CUTTING-OFF AND SIDE-TOOL HOLDERS

For Interchangeable Blades. Right and Left Hand Offset Shanks

"THE HOLDERS THAT HOLD"



Furnished with either Headless or Hex Head Cam, Finished Blade and Wrench

(Continued from previous page)

and imposes no obstruction to cutting facilities. Either Hex Head Cam (illustrated) or Headless Cam is furnished; both types are interchangeable.

The Cutter Blades, furnished from High Speed Steel, hardened and ground ready for use, assure an extended service of high class cutting qualities and great wear.

Cutting-off Blade and Hex Head Cam will be furnished, unless otherwise specified.

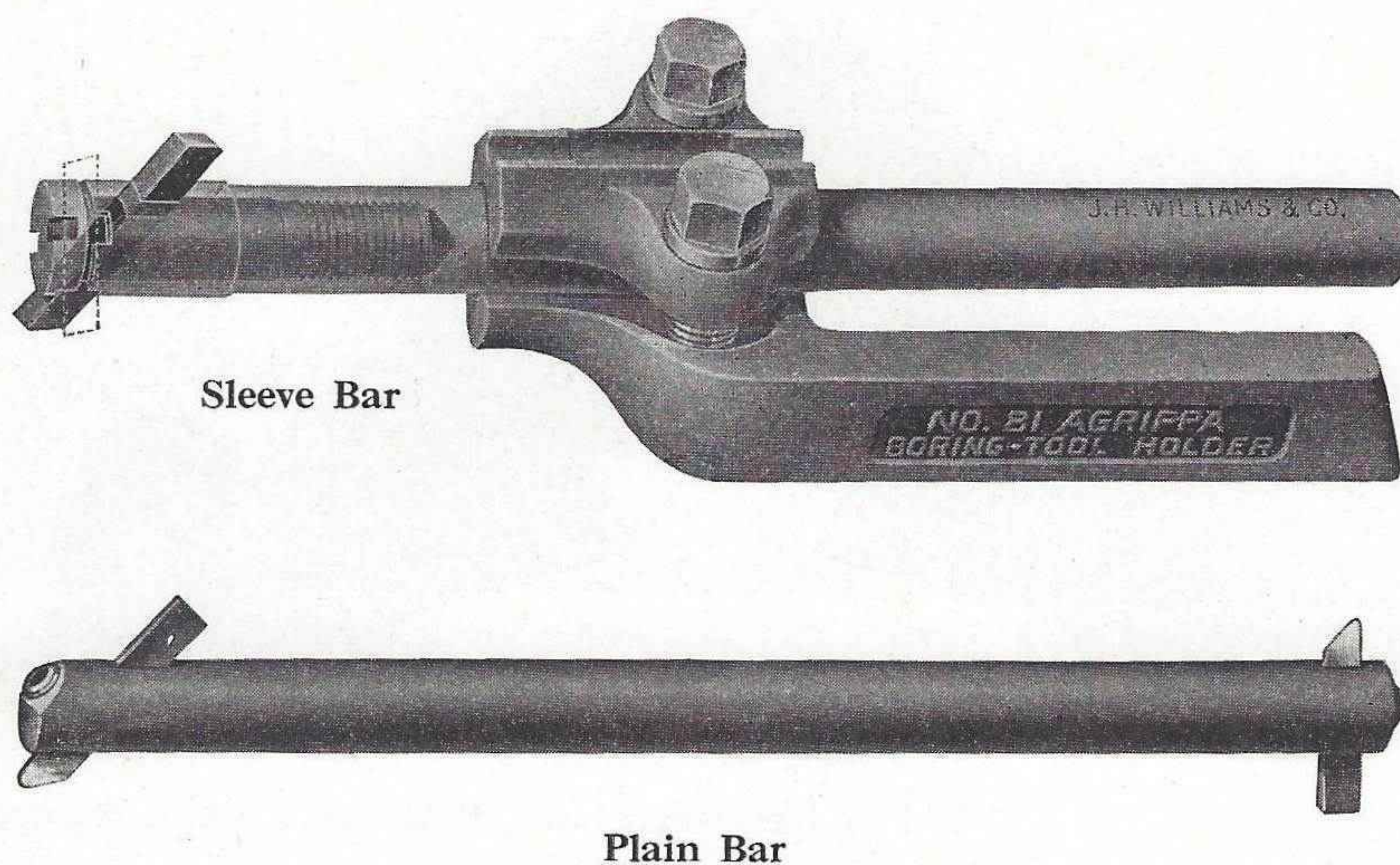
Number		Holder, Size	Cutter Blade, Finished Size		PRICE				Number	
Right Hand	Left Hand		For Cutting-off Tool	For Side Tool	Extra Finished Cutting-off Blade, High Speed Steel	Extra Finished side Blade, High Speed Steel	Complete Holder		Right Hand	Left Hand
030-R	030-L	5/16 x 13/16 x 4 3/8	5/64 x 1/2	1/8 x 1/2	\$.60	\$.60	\$2.85	\$2.85	030-R	030-L
30-R	30-L	3/8 x 31/32 x 5	3/32 x 5/8	5/32 x 5/8	.65	.90	3.00	3.40	30-R	30-L
31-R	31-L	1/2 x 1 3/16 x 6 1/8	1/8 x 3/4	3/16 x 3/4	.90	1.40	3.60	4.35	31-R	31-L
32-R	32-L	5/8 x 1 3/8 x 7	1/8 x 7/8	1/4 x 7/8	1.30	2.30	4.50	6.00	32-R	32-L
33-R	33-L	3/4 x 1 5/8 x 8 1/4	3/16 x 1	5/16 x 1	2.15	3.40	6.00	7.85	33-R	33-L
34-R	34-L	7/8 x 1 3/4 x 9 1/8	3/16 x 1 1/8	3/8 x 1 1/8	2.90	5.00	7.50	10.65	34-R	34-L
†35-R	†35-L	7/8 x 1 3/4 x 9 1/8	1/4 x 1 1/8	.....	4.00	.....	8.60	.....	†35-R	†35-L

† These are 34-R and 34-L Holders fitted with No. 35 Blade, making them equivalent to No. 35 Cutting-off tool.

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

✦ "AGRIPPA"
 BORING-TOOL HOLDERS
 EACH TAKES MANY SIZES OF BARS
 "THE HOLDERS THAT HOLD"



Furnished with either Sleeve or Plain Bar, 1 each 45° and 90° Cutter and 2 Finished Wrenches

For General Description, see page 108.

With this Holder, encumbering sleeves or bushings are unnecessary for Bars of various sizes; *One* Holder takes *many* Bars. Commercial forms of bar steel are adaptable for either Bars or Cutters without machining.

The Sleeve-bar fastening provides for the rapid adjustment of either straight or angular Cutters without the use of extra parts; it has greater strength than others of the same general design.

The Plain Bar provides for use with either Straight or Angular Cutters in the simplest manner possible and is furnished with Headless Set Screws.

Standard size Sleeve Bar will be furnished, unless otherwise specified.

No.	Holder, Size	Holder Capacity for Bars, Size Diameter	Standard Bar, Size Diameter	PRICE Complete Holder		No.
				With Plain Bar, High Speed Cutters	With Sleeve Bar, High Speed Cutters	
080	5/16 x 3/4	3/16 to 1/2	1/2	\$ 4.30	\$ 4.90	080
80	3/8 x 7/8	1/4 to 5/8	5/8	4.30	4.90	80
81	1/2 x 1 1/8	1/4 to 3/4	3/4	5.00	5.80	81
82	5/8 x 1 3/8	3/8 to 15/16	15/16	6.50	7.65	82
83	3/4 x 1 5/8	1/2 to 1 1/8	1 1/8	9.60	10.85	83

Weights given pages 163 to 170.

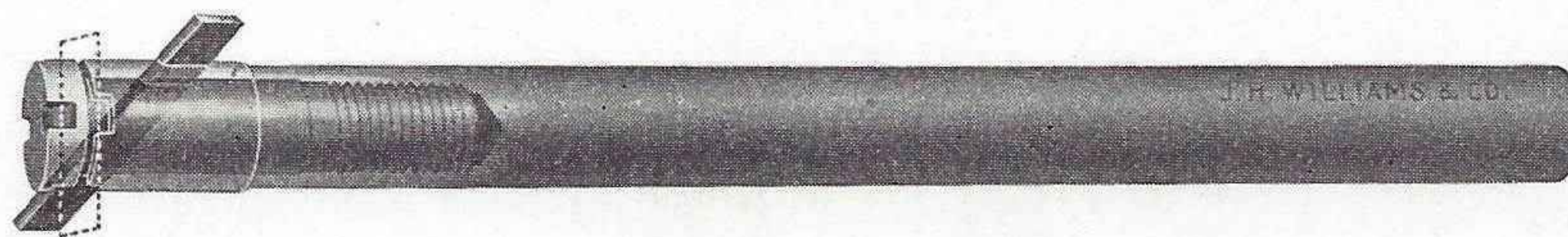
✦ REGISTERED TRADE MARK

✦ "AGRIPPA"

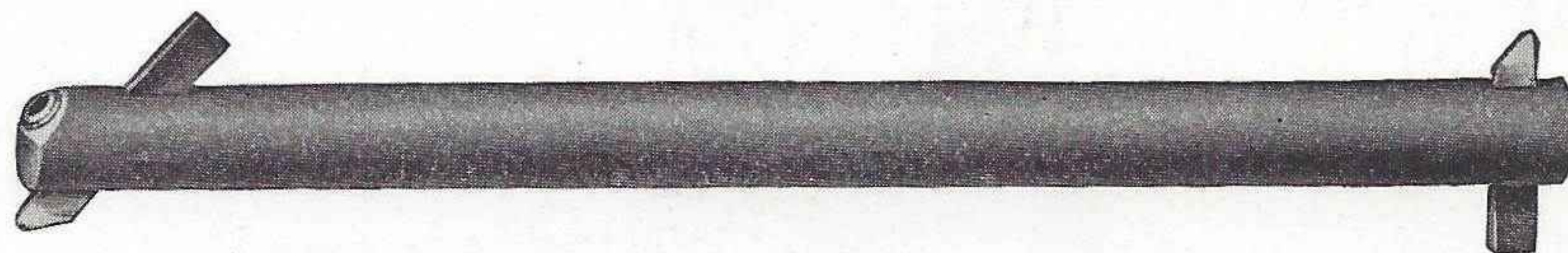
BORING-BARS AND CUTTERS

FOR

BORING-TOOL HOLDERS AND ADJUSTABLE BORING-TOOL POSTS



Sleeve Bar



Plain Bar

The Sleeve-bar fastening provides for the rapid adjustment of either straight or angular Cutters without the use of extra parts; it has greater strength than others of the same general design.

The Plain Bar provides for use with either straight or angular Cutters in the simplest manner possible, and is furnished with Headless Set Screws.

Furnished with two Cutters and Finished Wrench

"Agrippa" Boring-Bars Approximate Size		For Use With		Cutters		PRICE		
				Size Square and Length	For Use at Angles of	Cutters Only, High Speed	Complete Bar	
Sleeve	Plain	Holders No.	Posts No.				Plain, with High Speed Cutters	Sleeve, with High Speed Cutters
1/2 x 7 5/8	1/2 x 8 1/8	080-83	2-3	{ 3/16 x 1 3/16 x 1 1/2	{ 90° 45°	{ \$.10 .12	\$ 2.40	\$ 3.00
5/8 x 9 1/8	5/8 x 10 1/8	80-83	2-4	{ 3/16 x 1 3/16 x 1 1/2	{ 90° 45°	{ .10 .12	2.40	3.00
3/4 x 11	3/4 x 12 1/8	81-83	2-5	{ 1/4 x 1 1/4 1/4 x 2	{ 90° 45°	{ .15 .19	2.95	3.75
15/16 x 13 1/4	15/16 x 14 1/8	82-83	2-5	{ 5/16 x 1 1/2 5/16 x 2 1/2	{ 90° 45°	{ .24 .32	4.25	5.40
1 1/8 x 16	1 1/8 x 16 3/4	83	2-5	{ 3/8 x 1 7/8 3/8 x 3	{ 90° 45°	{ .35 .50	6.25	7.50
1 5/16 x 19	1 5/16 x 20		2-5	{ 3/8 x 2 1/8 3/8 x 3 1/4	{ 90° 45°	{ .40 .55	9.00	10.50
1 1/2 x 23 1/4	1 1/2 x 23 1/2		3-5	{ 7/16 x 2 1/4 7/16 x 3 3/8	{ 90° 45°	{ .60 .85	11.75	13.50
1 13/16 x 27 1/4	1 13/16 x 28		4-5	{ 1/2 x 2 5/8 1/2 x 4	{ 90° 45°	{ .90 1.30	17.50	19.50
2 1/4 x 33	2 1/4 x 34		5	{ 5/8 x 3 1/8 5/8 x 4 3/4	{ 90° 45°	{ 1.70 2.35	31.00	34.50

Holders, see previous page; Posts, see page 119; Light Boring Bars 118.

✦ REGISTERED TRADE MARK

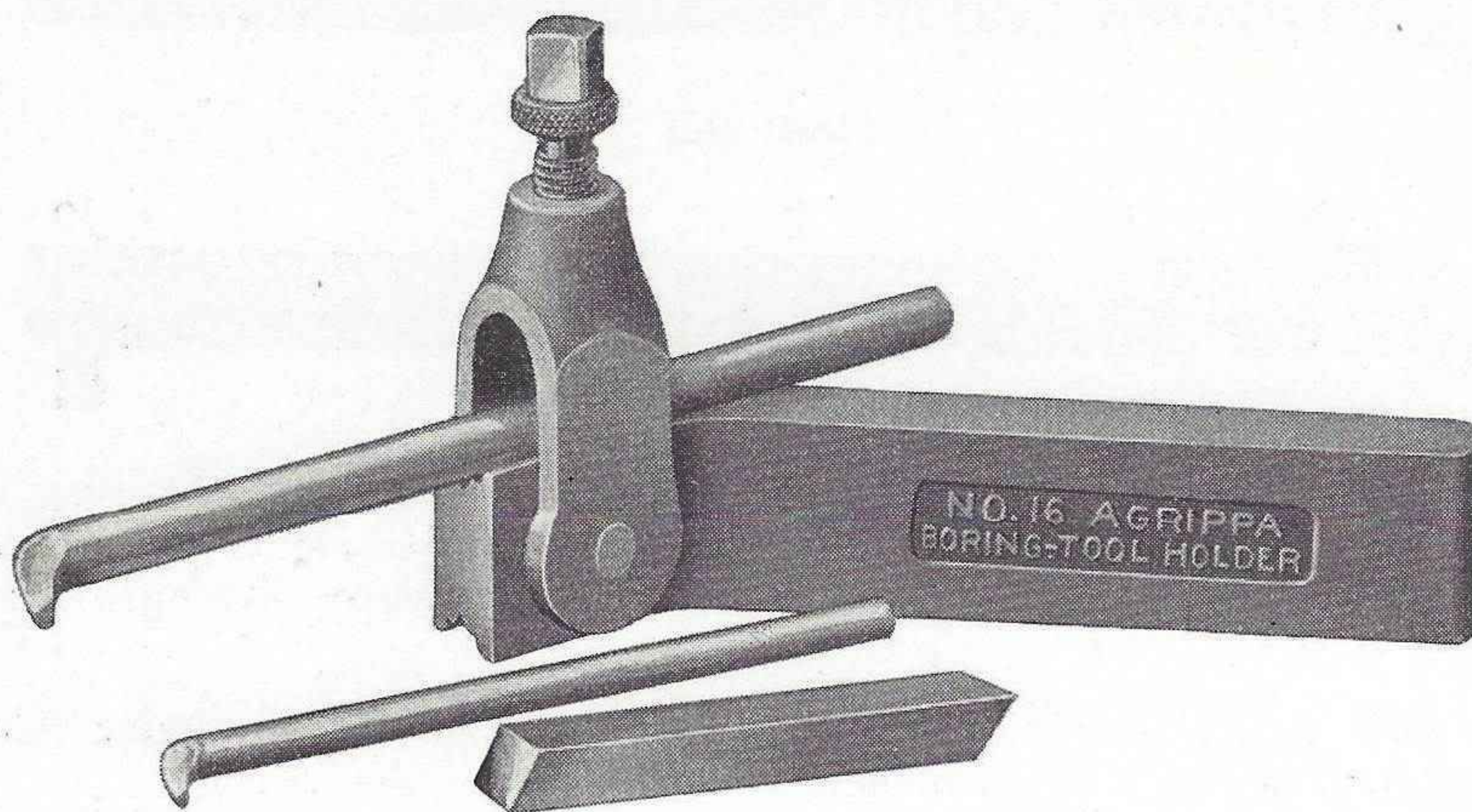
✦ "AGRIPPA"

LIGHT BORING-TOOL HOLDERS

FOR SMALL, LIGHT BORING, TURNING, ETC.

Each Holder Takes Several Sizes of Bars

"THE HOLDERS THAT HOLD"



Furnished with 2 Finished Bars, 1 Square Cutter
and Finished Wrench

This Holder is very handy and economical for tool room use and for all small work—not only in boring small diameters, threading, etc., but also in turning.

Boring. Each tool will hold a number of sizes of Bars; two, varying 1/8" in diameter, are supplied with each Holder. The Bars are High Speed steel, carefully hardened and ground, ready for use.

Turning. The Holder, with offset shank, is reversible for right and left hand work. A hardened, High Speed Steel square Cutter with ends beveled to a "diamond point" for easy grinding to desired form, is supplied with each tool.

No.	Holder, Size Shank	With Each Holder		PRICE		No.
		2 Bars High Speed Steel, Diameter	1 High Speed Square Cutter	Square Cutter Only	Complete Holder	
15	3/8 x 3/4 x 5	1/8 & 1/4	1/4	\$.20	\$4.15	15
16	1/2 x 1 x 5 3/4	3/16 & 5/16	5/16	.35	5.25	16
17	5/8 x 1 1/4 x 6 3/4	1/4 & 3/8	3/8	.55	6.75	17

EXTRA BORING BARS

Size.....	1/8 x 4	3/16 x 4 1/2	1/4 x 5	5/16 x 6	3/8 x 7	7/16 x 8
For Holders.....	15 & 16	15 to 17	15 to 17	15 to 17	16 & 17	17
PRICE, Each.....	\$.30	\$.40	\$.50	\$.60	\$.80	\$1.10

Weights see table beginning pages 163 to 170.

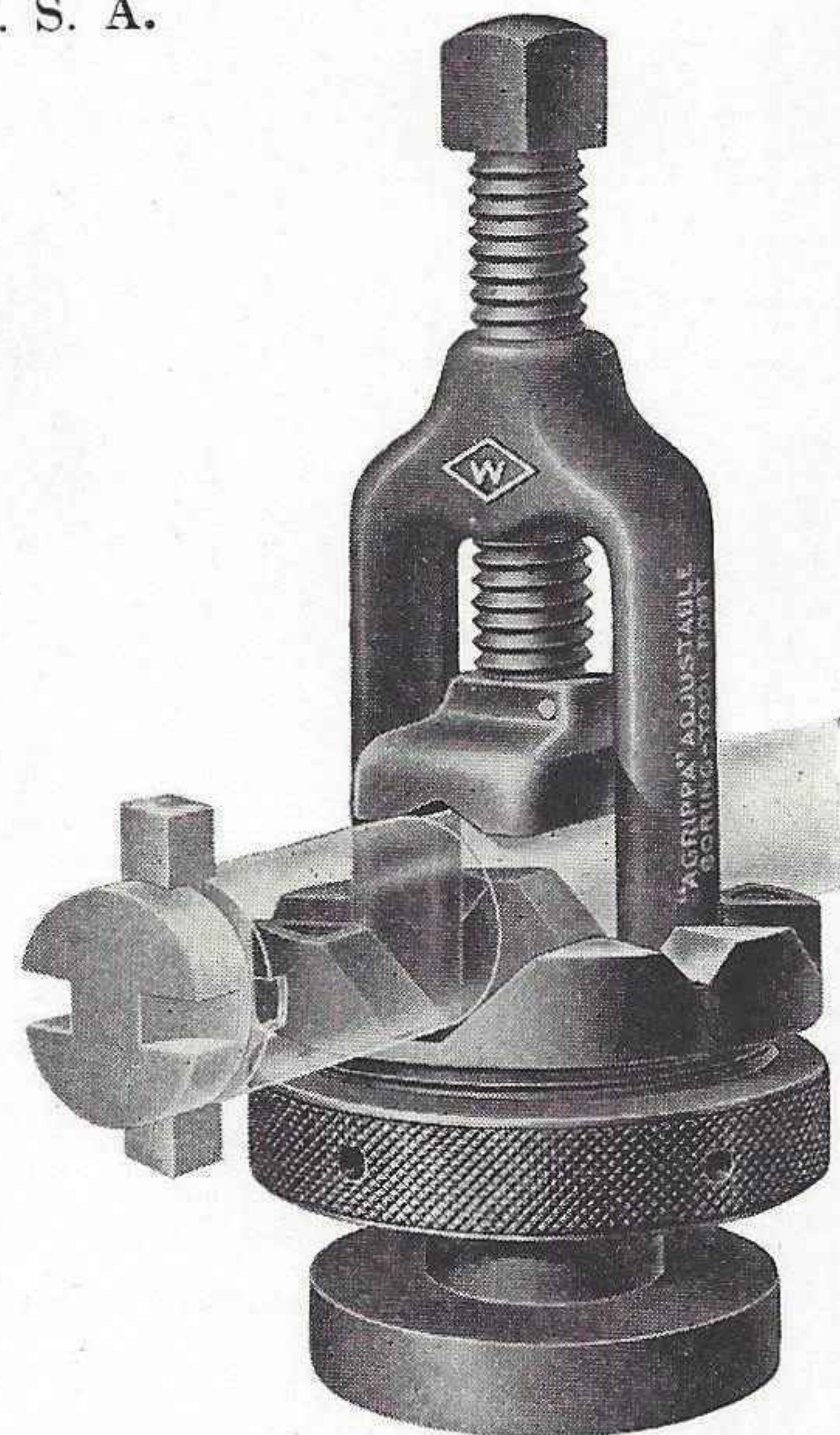
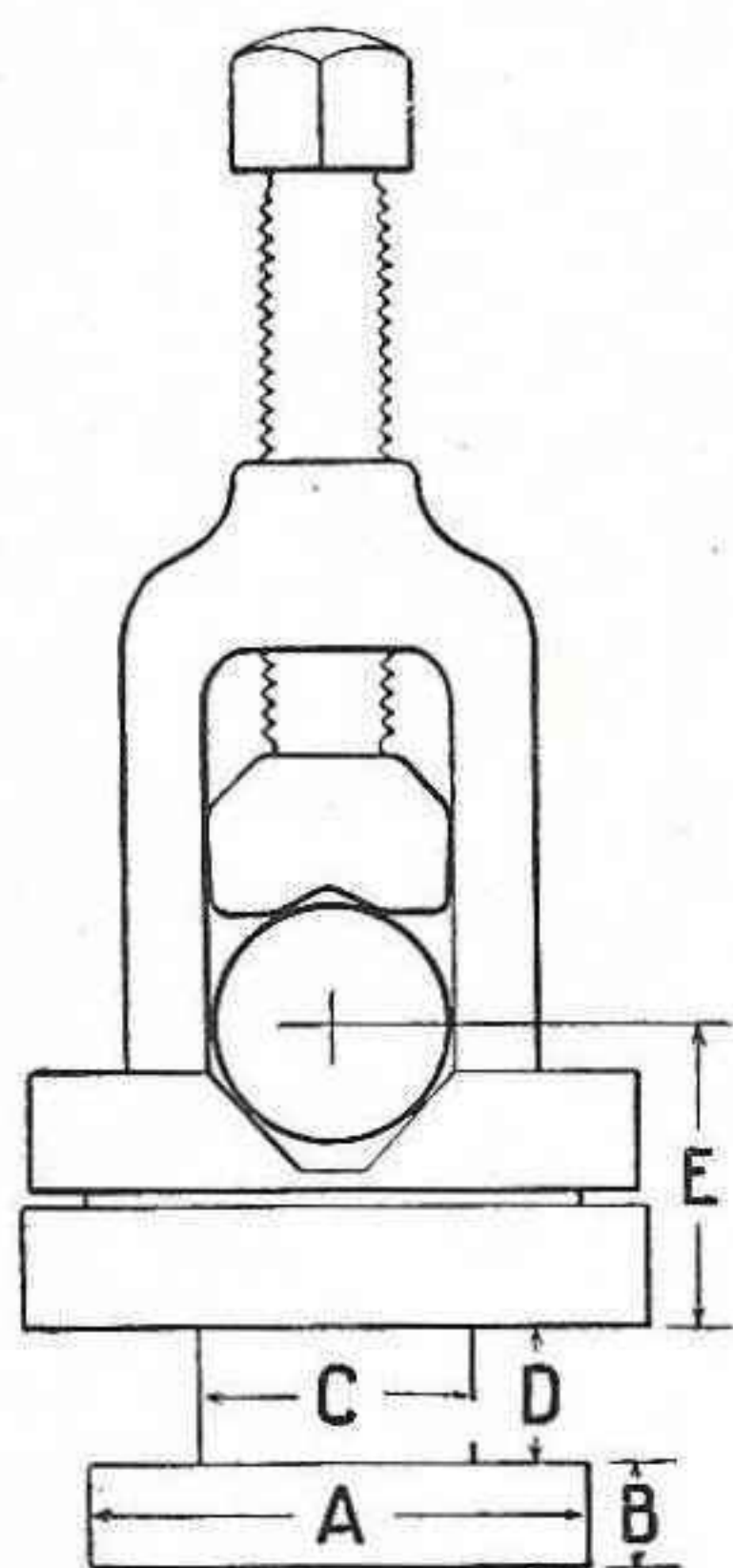
✦ REGISTERED TRADE MARK

♦ "AGRIPPA"

ADJUSTABLE BORING-TOOL POSTS

FOR MANY SIZES OF BARS

Patented in U. S. A.



Furnished with either Sleeve or Plain Bar, 1 each 45° and 90° Cutter
and 2 Finished Wrenches

Each Post accommodates a wide range of Bars; commercial sizes of bar steel are adaptable for either Bars or Cutters without machining.

The height of the Bar is easily and quickly adjusted—a turn of the Knurled Ring will raise or lower the base on which the Bar rests; tightening the Set Screw in the head of the Post then locks the whole device instantly, giving an extremely rigid tool.

If Post is desired *without* the Bar, deduct price shown on page 117 for standard size Bar.

Standard size Sleeve Bar will be furnished, unless otherwise specified.

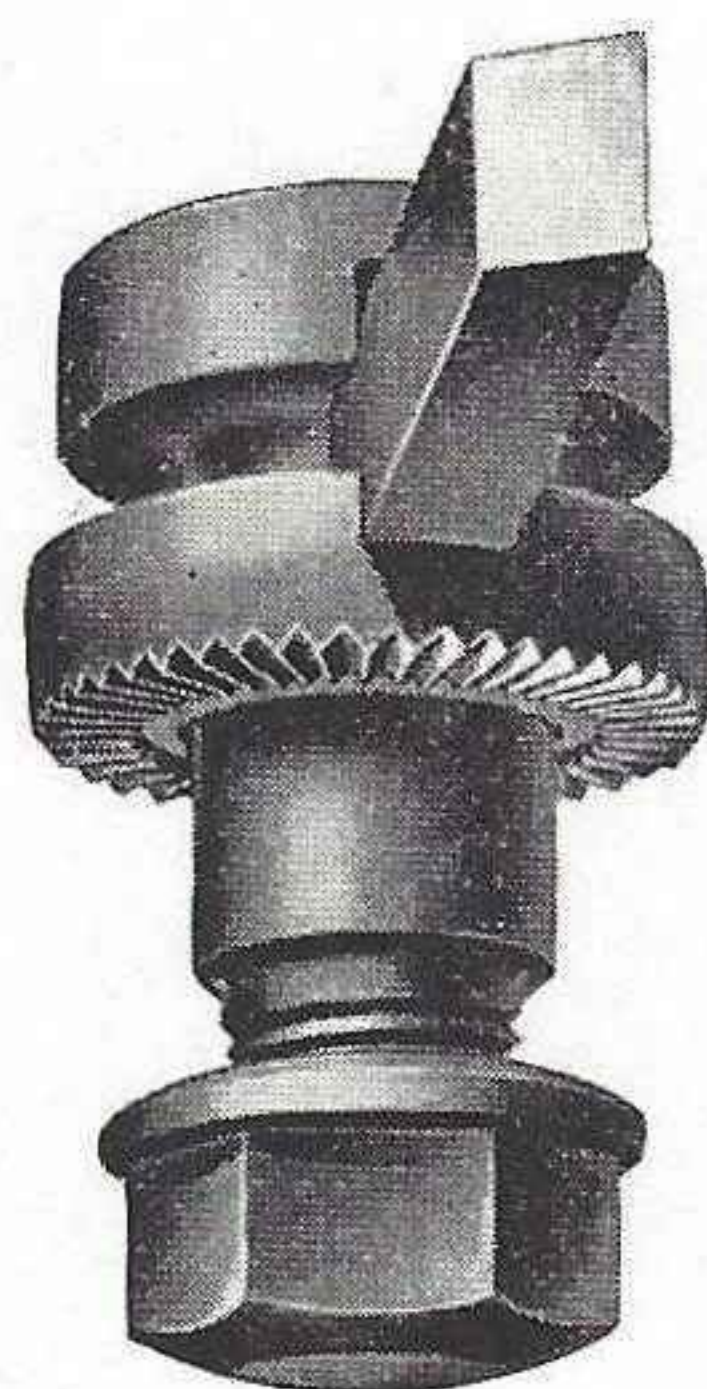
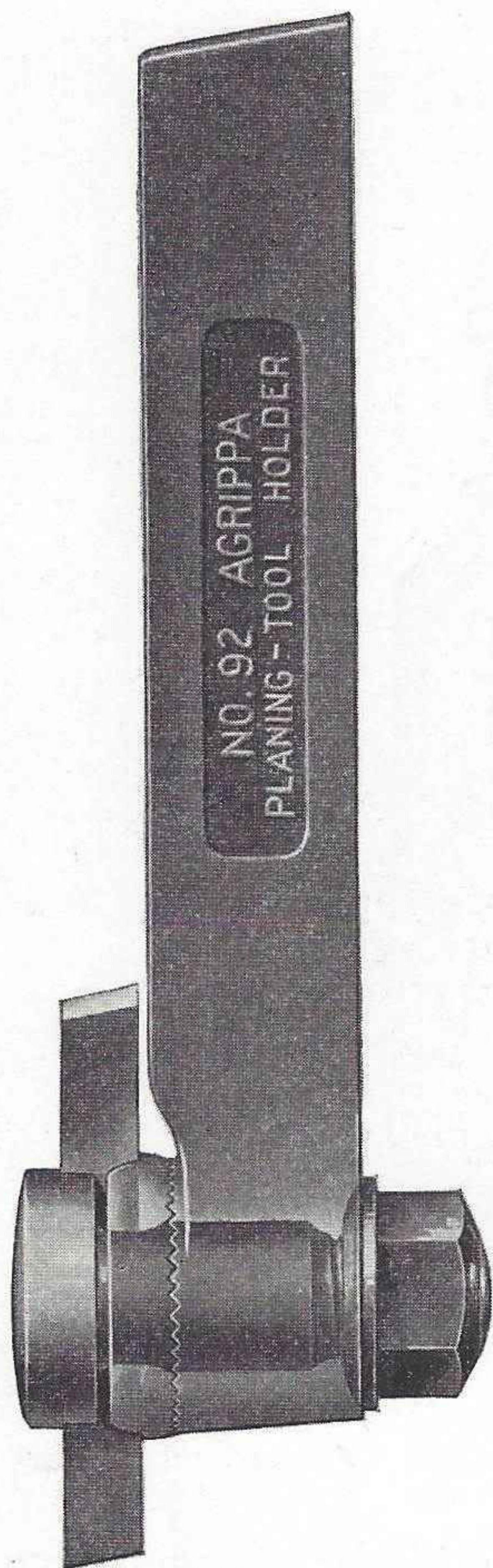
Number	2	3	4	5
Post—Length over all, without Screw.....	6 5/8	7 5/8	9 1/8	11 1/8
† "T" Slot Flange:				
A Diameter,.....	3	3 1/2	4 1/4	5
B Thickness,.....	5/8	3/4	7/8	1 1/16
† "T" Slot Neck:				
C Diameter,.....	1 5/8	1 3/4	2	2 1/4
D Length,.....	3/4	13/16	1	1 1/4
E Center Height,.....	1 13/16	1 7/8	2 3/8	2 3/4
Post Capacity for Bars—Size.....	1/2 to 1 5/16	1/2 to 1 1/2	5/8 to 1 13/16	3/4 to 2 1/4
Standard Bar—Size.....	1 5/16	1 1/2	1 13/16	2 1/4
PRICE—Complete Post:				
With Sleeve Bar, High Speed Cutters.....	\$ 27.00	\$ 37.50	\$ 60.00	\$ 90.00
With Plain Bar, High Speed Cutters.....	\$ 25.50	\$ 35.75	\$ 58.00	\$ 86.50

† The "T" Slot Flange and Neck are furnished large to allow for fitting to individual machines. For special finishing to specified dimensions, an extra charge of \$2.00 net, each Post will be made. Weights given pages 163 to 170. Bar and Cutter details on page 117.

♦ REGISTERED TRADE MARK

★ "AGRIPPA"
 PLANING-TOOL HOLDERS

"THE HOLDERS THAT HOLD"



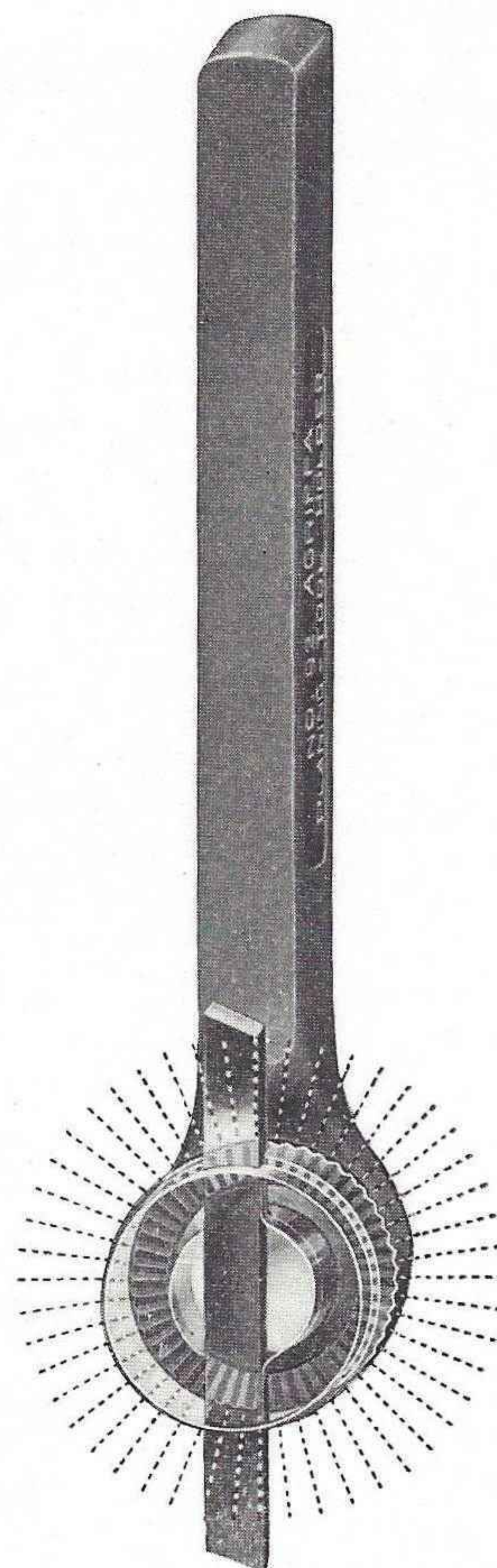
The substantial Bolt-fastening
 and serrated Adjustment Ring

This construction
 affords most ready
 release of Cutter
 for easy adjustment.

The serrations in
 Holder provide max-
 imum number of
 cutter adjustments.

Furnished with Cutter and Finished Wrench

For General Description, see page 108.



A rugged, substantial and efficient tool on either Lathe or Planer. Because of its numerous angles of adjustment it also makes an excellent Offset Turning Tool.

The construction assures perfect seat and holding qualities for the Cutters; the convex face of Clamp Nut provides uniform locking pressure for Cutters of either square or rectangular form; the numerous serrations in Holder provide for quick, fine and maximum number of Cutter adjustments unequalled in other designs.

The serrated washer, or Adjustment Ring, which sustains the fastening and working strains, is hardened and tempered. Should it wear in prolonged service, a new Ring *only* is required—not a complete Holder.

No.	Holder, Size	Cutter Size	PRICE			No.
			Extra Adjustment Ring	Cutter Only, High Speed Steel	Complete Holder, High Speed Cutter	
91	1/2 x 1 x 7	1/4 x 3/8	\$.60	\$.35	\$ 4.65	91
92	5/8 x 1 1/4 x 8 1/2	5/16 x 7/16	.68	.55	6.00	92
93	3/4 x 1 1/2 x 10 1/4	3/8 x 1/2	.83	.80	7.85	93
94	1 x 1 3/4 x 13 1/4	1/2 x 3/4	1.05	1.95	12.40	94
95	1 3/8 x 2 x 16 1/2	5/8 x 7/8	1.50	3.35	21.75	95
96	1 3/4 x 2 3/8 x 19	3/4 x 1	2.25	5.00	39.00	96
97	2 1/8 x 2 3/4 x 22	7/8 x 1 1/8	3.38	8.20	57.00	97

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

♦ “AGRIPPA”
 THREADING-TOOL HOLDERS

“THE HOLDERS THAT HOLD”



LOCKABLE-SPRING HEAD
 PATTERN

Furnished with
 Finished Cutter and Wrench

FORMED-CUTTER
 PATTERN
 Furnished With
 Finished Cutter and Wrench



For General Description, see page 108

LOCKABLE—SPRING PATTERN

A highly perfected tool for fine and coarse threading, or other Lathe work. The Nut for the Lockable-Spring Head provides for the rigid backing required for heavy cuts; when it is loosened, the Holder becomes a spring-tool for finishing work. It is equally efficient as a Turning-tool. The Cam-fastening is always rapid and positive—the greater the pressure, the tighter the lock.

The cutter, made from High Speed steel, is finished. Each end is ground, the “V” point forming either an angle of 60° for U. S., or 55° for Whitworth Std. threads.

FORMED—CUTTER PATTERN

“Agrippa” Threading-Tools with FORMED CUTTER assure threads that fit perfectly, since in re-sharpening the Cutter, it is necessary to grind its top edge only. Therefore, the point will always retain proper form and angle as originally supplied.

The High Speed Cutter is ground to an included angle of 60° and is backed off for proper clearance. Its rear, flat edge is eccentrically formed; the hardened stop screw, bearing against it, provides positive and accurate adjustment.

No.	Holder, Size	Cutter, Size Square	PRICE		No.
			Extra Finished Cutter, High Speed	Complete with High Speed Cutter	
LOCKABLE—SPRING PATTERN					
S-50	3/8 x 7/8 x 5 1/4	1/4	\$.45	\$4.15	S-50
S-51	1/2 x 1 1/8 x 6	5/16	.55	5.00	S-51
S-52	5/8 x 1 3/8 x 7	3/8	.70	6.40	S-52
FORMED—CUTTER PATTERN					
C-50	3/8 x 7/8 x 5	Formed	\$2.65	\$4.15	C-50
C-51	1/2 x 1 1/8 x 5 3/4	Formed	3.15	5.00	C-51

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

✦ "AGRIPPA"
 KNURLING-TOOL HOLDERS

"THE HOLDERS THAT HOLD"



Nos. OO-K, O-K
 with Self-center-
 ing Head and One
 Pair of Knurls

No. 11-K with
 Revolving Head
 and Three Pairs
 of Knurls



For General Description, see page 108

"Agrippa" Knurling Tools are furnished in two designs:—

Nos. OO-K and O-K, with sturdy, self-centering heads, are each fitted with ONE pair of Knurls for fine, medium, or coarse work—see illustration on opposite page. Unless otherwise specified, "Diamond" Pattern, Medium Knurls will be supplied.

No. 11-K carries THREE pairs of Knurls for fine, medium and coarse work—see illustration on following page. These are fitted in a revolving head and can be used as desired, without loss of time in changing from one grade of knurling to another.

The Pins are of Tool Steel, carefully tempered.

The Knurls are fully described on next page.

No.	Holder, Size	Knurls, Size			Weight Each, Lbs.	PRICE		No.
		Diam.	Face	Hole		Extra Knurls, Pair	Com- plete Tool	
OO-K	5/16 x 3/4 x 5	5/8	3/16	*7/32	.55	\$1.00	\$5.65	OO-K
O-K	3/8 x 7/8 x 5 1/2	5/8	3/16	*7/32	.65	1.00	6.00	O-K
11-K	1/2 x 1 1/8 x 6 5/8	3/4	1/4	1/4	1.90	1.15	9.00	11-K

* Hole, old diameter 1/4 inch.

✦ REGISTERED TRADE MARK

KNURLS FOR
 ✦ "AGRIPPA"
 KNURLING-TOOL HOLDERS

"THE HOLDERS THAT HOLD"

DIAMOND PATTERN

STRAIGHT-LINE PATTERN



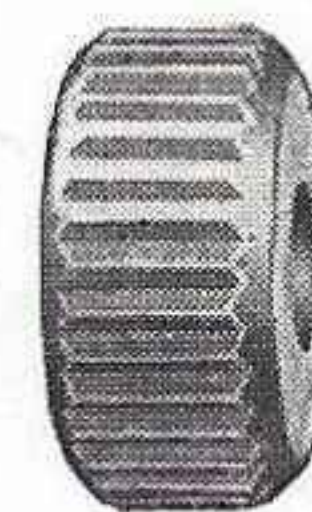
Coarse
14 Pitch



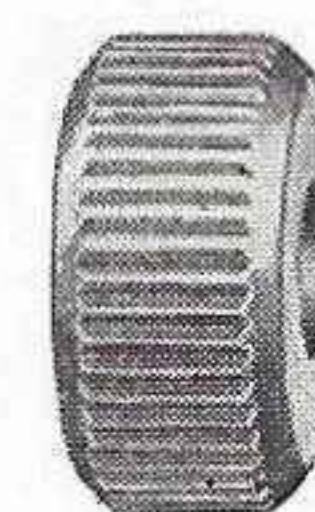
Medium
21 Pitch



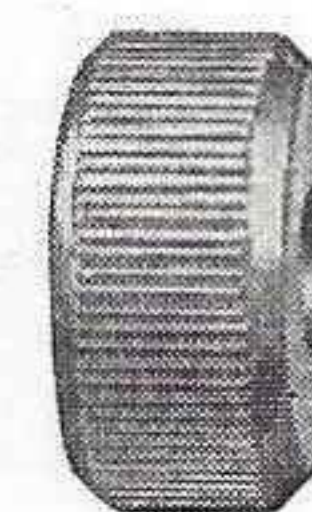
Fine
33 Pitch



Coarse
14 Pitch



Medium
21 Pitch



Fine
33 Pitch

Note: "Pitch" means number of teeth per linear inch.



Illustrations above show actual size of Knurling

"Agrippa" Knurls are made to close limits in all respects and, being accurately cut, they assure sharp and perfect teeth in the knurled product. The hole is concentric with and parallel to the cutting face, insuring uniform, clean cut results. All Knurls are made from high grade tool steel and are specially hardened and tempered.

Furnished in pairs to fit standard makes of Knurling Tools and supplied in two Patterns—"Diamond" and "Straight-Line". Three different pitches in each Pattern—Coarse, 14 pitch; Medium, 21 pitch; Fine, 33 pitch; all as illustrated above. When ordering, always specify Pattern and pitch desired.

"Diamond" Pattern, Medium (21 pitch) will be furnished, unless otherwise specified.

For Knurling Tool No.	Knurls, Size				PRICE Per Pair	For Knurling Tool No.
	Diameter	Thickness	Face	Hole		
00-K	5/8	5/16	3/16	* 7/32	\$1.00	00-K
0-K	5/8	5/16	3/16	* 7/32	1.00	0-K
11-K	3/4	3/8	1/4	1/4	1.15	11-K

* Hole, old diameter 1/4 inch.

✦ REGISTERED TRADE MARK

✦ "AGRIPPA"
 LATHE TOOL SETS

"THE HOLDERS THAT HOLD"



RIGHT HAND OFFSET
 TURNING-TOOL HOLDER
 WITH ONE CUTTER



LEFT HAND OFFSET
 TURNING-TOOL HOLDER
 WITH ONE CUTTER



STRAIGHT TURNING-TOOL HOLDER
 WITH ONE CUTTER



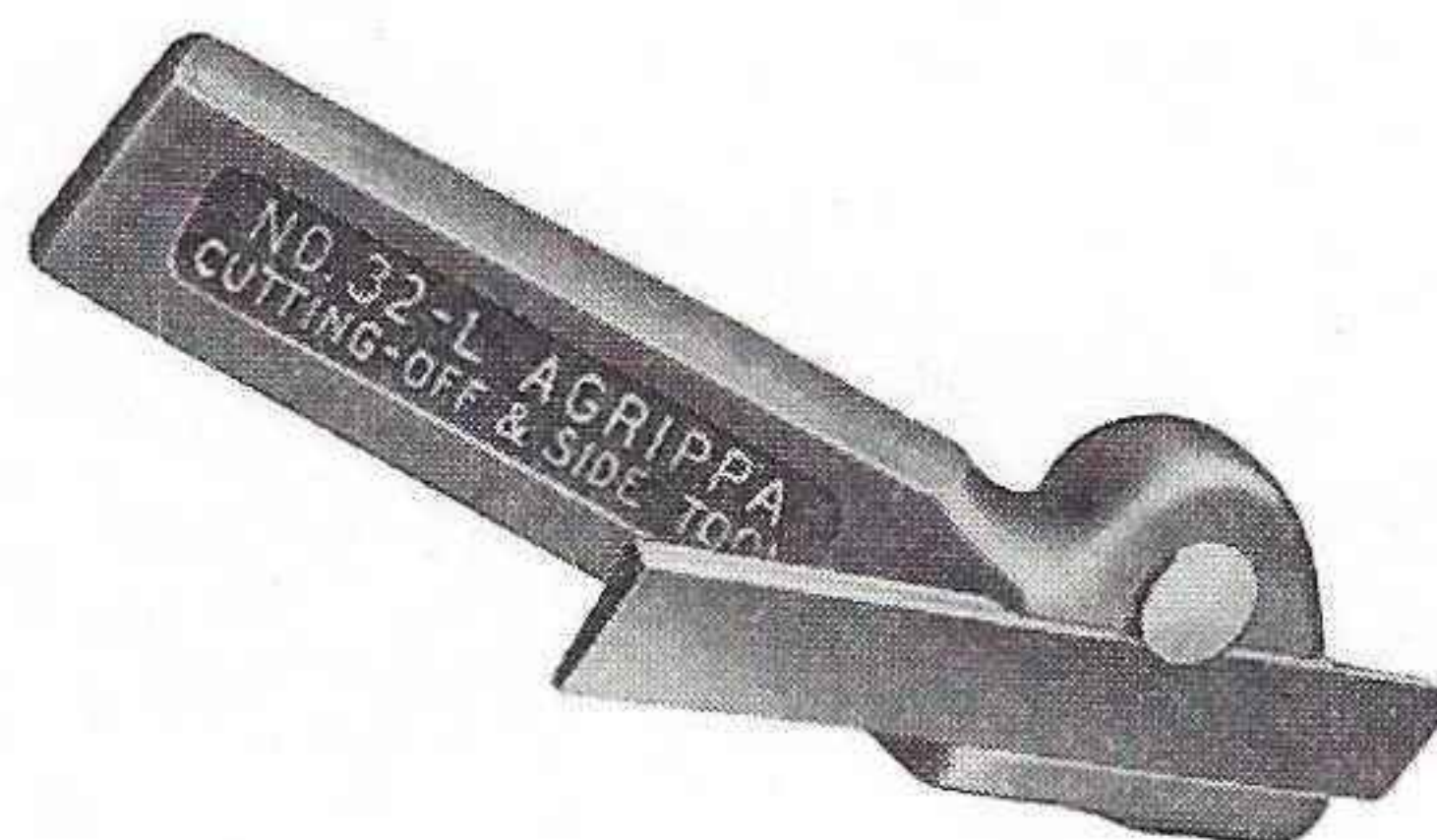
RIGHT HAND STRAIGHT
 CUTTING-OFF & SIDE TOOL HOLDER
 WITH ONE EACH CUTTING-OFF AND
 SIDE BLADE



THREADING-TOOL
 HOLDER
 WITH FORMED CUTTER



RIGHT HAND OFFSET
 CUTTING-OFF & SIDE TOOL HOLDER
 WITH ONE EACH CUTTING-OFF
 AND SIDE BLADE



LEFT HAND OFFSET
 CUTTING-OFF & SIDE TOOL HOLDER
 WITH ONE EACH CUTTING-OFF
 AND SIDE BLADE



BORING-TOOL HOLDER
 WITH SLEEVE BAR AND TWO CUTTERS

Always ready Sets of "Agrippa" Tool Holders provide, in a minimum number of tools, greatest economy and service in lathe work. For description see following page.

✦ REGISTERED TRADE MARK

✦“AGRIPPA”

LATHE TOOL SETS

“THE HOLDERS THAT HOLD”

High Speed Steel Cutters
Convenient—Efficient—Economical—Superior

(Continued)

Williams’ “Agrippa” Holders save all lost time of men and machines waiting for tools. Nearly all tool-grinding time. All blacksmith work. Practically all loss of costly high speed steel.

In order to provide for all regular Lathe operations—Turning, Boring, Threading, Cuttings-off and Side Work—in the most economical and efficient manner, six “always ready” Sets of Tool Holders, illustrated on opposite page, have been developed. These combinations of Williams’ “Agrippa” Tool Holders offer comprehensive and complete Lathe Service *in a minimum number of tools*, unequalled elsewhere.

One Cutter is included for each Holder, excepting where two are supplied, as follows; one Cut-off and one Side Blade for each Cutting-off & Side Tool-Holder and two Cutters for each Boring-tool Holder. Finished Wrenches are provided throughout.

All Cutters are made from our “Agrippa” High Speed Steel and are carefully hardened in special equipment, assuring uniform and maximum hardness.

Boring-tool Holders will be furnished regularly with Sleeve Bar, as illustrated or, should Plain Bar be specified, at a lower price; see table, page 116.

Set No.	For Lathes of Approx. † Swing, Inches	“AGRIPPA” TOOL HOLDERS IN SETS					Quantity Tools in Set	PRICE	Set No.
		Size of Holder Shank	Turning Tools; Straight and R and L Hand Offset Shanks, 1 Each, Nos.	Cutting-off and Side Tools; Straight and R and L Hand Offset Shanks, 1 Each, Nos.	Thread- ing Tool, 1 Each No.	Boring Tool, 1 Each No.		Complete Set with High Speed Steel Cutters	
00	7 to 10	5/16 x 3/4	00-S, R, L	020-R, 030-R, L	.....	080	7	\$ 23.35	00
0	10 to 12	3/8 x 7/8	0-S, R, L	20-R, 30-R, L	C-50	80	8	29.30	0
1	14 to 16	1/2 x 1 1/8	1-S, R, L	21-R, 31-R, L	C-51	81	8	35.50	1
2	16 to 18	5/8 x 1 3/8	2-S, R, L	22-R, 32-R, L	.....	82	7	40.00	2
3	18 to 20	3/4 x 1 5/8	3-S, R, L	23-R, 33-R, L	.....	83	7	55.25	3
4	24 to 36	7/8 x 1 3/4	4-S, R, L	24-R, 34-R, L	.....	.....	6	58.20	4

† Be careful to measure the opening in tool-post before ordering Sets. Due to a considerable variation in the proportions of lathes as furnished by different manufacturers, it is impossible to state definitely the “swing” of lathe best adapted to a given size Tool Holder.

✦ REGISTERED TRADE MARK

★“AGRIPPA” HIGH SPEED STEEL CUTTERS

FOR “AGRIPPA” TOOL HOLDERS

Require minimum of grinding only for use in Holders. All Cutters are hardened.

For Turning-Tool Holders				For “Agrippa” Boring Bars				
No.	CUTTER, SIZE		PRICE Each, High Speed	Bar Diam.	For Use at Angle of	CUTTER, SIZE		PRICE Each, High Speed
	Square	Length				Square	Length	
00 & 0200	3/16	1 7/8	\$.15	1/2	90°	3/16	1	\$.10
0 & 200	† 1/4	2 3/8	.20	5/8	45°	3/16	1 1/2	.12
1 & 201	† 5/16	2 7/8	.35	3/4	90°	3/16	1	.10
2 & 202	† 3/8	3 3/8	.55		45°	3/16	1 1/2	.12
3	7/16	3 3/4	.90		90°	1/4	1 1/4	.15
4 & 204	1/2	4 1/8	1.30	15/16	45°	1/4	2	.19
5	5/8	4 3/4	2.35		90°	5/16	1 1/2	.24
6	3/4	5 1/2	3.85	1 1/8	45°	5/16	2 1/2	.32
					90°	3/8	1 7/8	.35
				1 5/16	45°	3/8	3	.50
					90°	3/8	2 1/8	.40
				1 1/2	45°	3/8	3 1/4	.55
					90°	7/16	2 1/4	.60
				1 13/16	45°	7/16	3 3/8	.85
					90°	1/2	2 5/8	.90
				2 1/4	45°	1/2	4	1.30
					90°	5/8	3 1/8	1.70
					45°	5/8	4 3/4	2.35

† Cutters of these sizes are also suitable for turning when used in Threading-Tool, Nos. S-50 to S-52.

For Threading-Tool Holders				For Planing-Tool Holders			
No.	CUTTER, SIZE		PRICE Each, High Speed Finished Cutter	No.	CUTTER, SIZE		PRICE Each, High Speed
	Square	Length			Flat	Length	
50	1/4	2 3/8	\$.45	91	1/4 x 3/8	2 1/2	\$.35
51	5/16	2 7/8	.55	92	5/16 x 7/16	3	.55
52	3/8	3 3/8	.70	93	3/8 x 1/2	3 1/2	.80
				94	1/2 x 3/4	4 1/4	1.95
				95	5/8 x 7/8	5	3.35
				96	3/4 x 1	6	5.00
				97	7/8 x 1 1/8	7	8.20


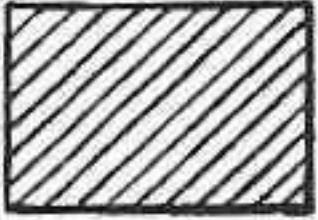


Turning-Tool Cutters marked † are suitable for turning work in Threading-Tool Holders. See table above.

Bevel For Cutting-Off Tool Holders			Heavy Bevel For Side-Tool Holders		
No.	Finished Cutter Blade, Ground to Size		No.	Finished Cutter Blade, Ground to Size	
		PRICE Each, High Speed			PRICE Each, High Speed
020 & 030	5/64 x 1/2 x 4 1/2	\$.60	020 & 030	1/8 x 1/2 x 4 1/2	\$.60
20 & 30	3/32 x 5/8 x 5	.65	20 & 30	5/32 x 5/8 x 5	.90
21 & 31	1/8 x 3/4 x 6	.90	21 & 31	3/16 x 3/4 x 6	1.40
22 & 32	1/8 x 7/8 x 7	1.30	22 & 32	1/4 x 7/8 x 7	2.30
23 & 33	3/16 x 1 x 8	2.15	23 & 33	5/16 x 1 x 8	3.40
24 & 34	3/16 x 1 1/8 x 9	2.90	24 & 34	3/8 x 1 1/8 x 9	5.00
25 & 35	1/4 x 1 1/8 x 10	4.00			

* REGISTERED TRADE MARK

✦ **“AGRIPPA”**
HIGH SPEED STEEL
 IN 3 FEET LENGTHS

Treatment for “Agrippa” High Speed Tool Holder Steel:—Preheat slowly and thoroughly to 1550° to 1600°F., then bring up the heat rapidly to 2350° and quench in oil; as soon as possible after hardening draw cutters to 1080° to 1100° to obtain maximum “red” hardness. Rockwell Hardness C-60 to 65.

Squares, for Use with		PRICE
		3 Feet Lengths Annealed High Speed
 “Agrippa” Turning, Boring and Threading-Tool Holders	3/16	\$ 1.40
	1/4	2.25
	5/16	3.40
	3/8	4.80
	7/16	6.30
	1/2	8.00
	5/8	12.50
	3/4	17.80
Flats, for Use with		PRICE
		3 Feet Lengths Annealed High Speed
 “Agrippa” Planing-Tool Holders	1/4 x 3/8	\$ 3.50
	5/16 x 7/16	4.80
	3/8 x 1/2	6.60
	1/2 x 3/4	12.50
	5/8 x 7/8	17.50
	3/4 x 1	23.25
	7/8 x 1 1/8	30.70
Heavy (Side Tool) Bevels, for Use with		PRICE
		3 Feet Lengths Annealed High Speed
 “Agrippa” Cutting-off and Side-Tool Holders	† Size Section for Side Blade	
	1/8 x 1/2	\$ 2.80
	5/32 x 5/8	3.70
	3/16 x 3/4	4.70
	1/4 x 7/8	7.00
	5/16 x 1	9.10
	3/8 x 1 1/8	12.45
Bevels, (Cutting-off) for Use with		PRICE
		3 Feet Lengths Annealed High Speed
 “Agrippa” Cutting-off and Side-Tool Holders	† Size Section for Cutting-off Blade	
	5/64 x 1/2	\$ 2.60
	3/32 x 5/8	2.70
	1/8 x 3/4	4.00
	1/8 x 7/8	4.35
	3/16 x 1	6.75
	3/16 x 1 1/8	7.50
	1/4 x 1 1/8	10.40

† Bevel Steel for Cutting-off and Side Blades requires grinding on edges to fit “Agrippa” Holders exactly. Finished sizes are given.

✦ REGISTERED TRADE MARK

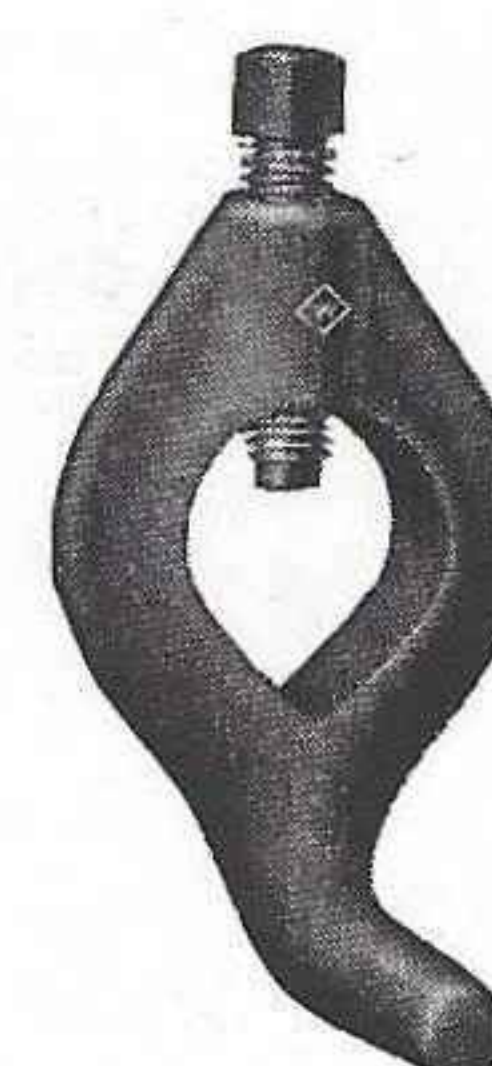
★ "VULCAN"
 DROP-FORGED LATHE DOGS
 WITH BENT TAIL AND ONE SCREW



Safety Dog
and Screw



Safety Screw
and Wrench



Non-Safety Dog
with
Square Head Screw

Full description on opposite page.

Dogs with Safety Screws will be supplied, unless otherwise specified.

No.	Capacity	SCREWS						PRICE		No.
		Square Head			Safety			Safety Dog Wrench, Extra	Dog Complete with Either Screw	
		Size		Price, Each	Size		Price, Each			
		Diam.	Length Under Head		Diam.	Extreme Length				
1	3/8	5/16	1 1/4	\$.16	7/16	5/8	\$.20	\$.12	† \$ 1.00	1
2	1/2	3/8	1 1/4	.20	9/16	13/16	.24	.14	† 1.10	2
3	3/4	7/16	1 5/8	.24	5/8	1 1/16	.30	.16	† 1.20	3
4	1	1/2	2	.30	11/16	1 1/4	.36	.16	† 1.40	4
5	1 1/4	1/2	2 1/4	.32	3/4	1 3/8	.42	.20	† 1.70	5
6	1 1/2	9/16	2 3/8	.36	13/16	1 5/8	.50	.24	† 2.00	6
7	1 3/4	5/8	2 1/2	.40	7/8	1 3/4	.60	.24	† 2.40	7
8	2	11/16	2 3/4	.46	1	1 7/8	.72	.30	† 2.80	8
9	2 1/2	11/16	3	.48	1 1/8	2	.86	.38	† 3.60	9
10	3	3/4	3 1/4	.54	1 1/4	2 1/8	1.04	.48	† 4.60	10
11	3 1/2	7/8	3 1/2	.64	1 3/8	2 1/2	1.26	.60	† 6.00	11
12	4	7/8	3 3/4	.70	1 1/2	2 5/8	1.50	.74	† 9.00	12
13	5	1	4 1/2	1.00	1 5/8	3 1/8	1.80	.90	† 16.00	13

† Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price stated in table.
 Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

✦ "VULCAN"

DROP-FORGED HEAVY SERVICE LATHE DOGS

WITH BENT TAIL AND TWO SCREWS



Non-Safety Dog
with
Square Head Screws

Safety Dog
and Screws

Safety-for-the-operator and better balance when on the lathe are material improvements which have been attained in this design.

The Screws are of special steel, hardened and tempered, and are threaded U. S. Standard, except that those above 1 inch diameter have eight threads per inch.

By drilling and tapping for the different diameters, the Dogs may be furnished with either Safety or old style (non-safety) Set Screws, but the two types of Screws are not interchangeable, and the safety feature is eliminated if the old style Set Screws are used. Please use numbers and state which Screw is desired.

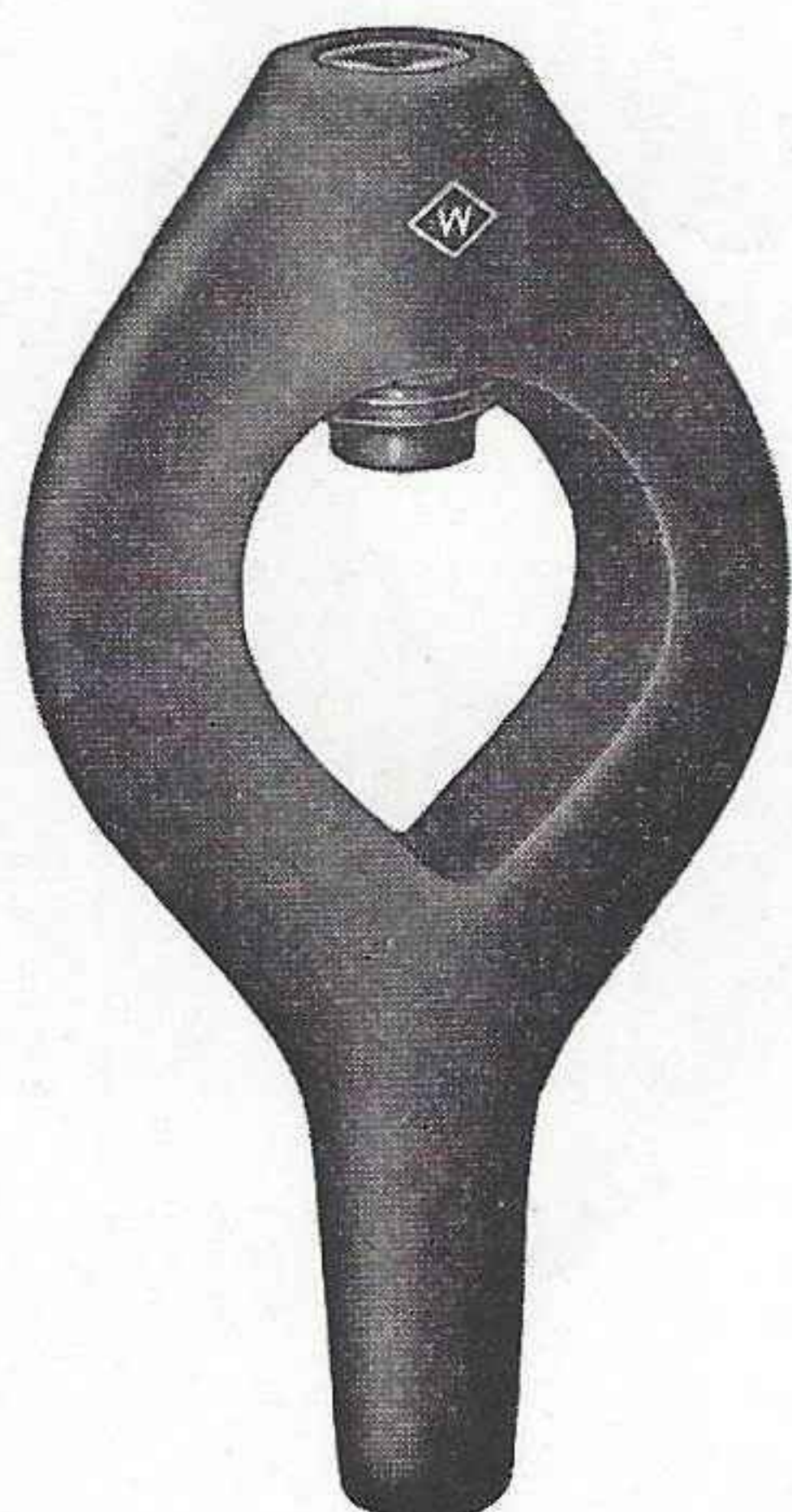
Dogs with Safety Screws will be supplied, unless otherwise specified.

No.	Capacity	SCREWS						PRICE		No.
		Square Head			Safety			Safety Dog Wrench, Extra	Dog with Either Screw	
		Size		Price, Each	Size		Price, Each			
		Diam.	Length Under Head		Diam.	Extreme Length				
112	4	7/8	3 3/4	\$.70	1 1/2	2 5/8	\$ 1.50	\$.74	† \$16.00	112
113	5	1	4 1/2	1.00	1 5/8	3 1/8	1.80	.90	† 24.00	113
114	6	1	4 1/2	1.00	1 3/4	3 1/2	2.30	1.10	† 34.00	114

† Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price stated in table.
 Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

♦ "VULCAN"
 DROP-FORGED LATHE DOGS
 WITH STRAIGHT TAIL AND ONE SCREW



Safety Dog
and Screw



Safety Screw
and Wrench



Non-Safety Dog
with
Square Head Screw

Full description on opposite page.

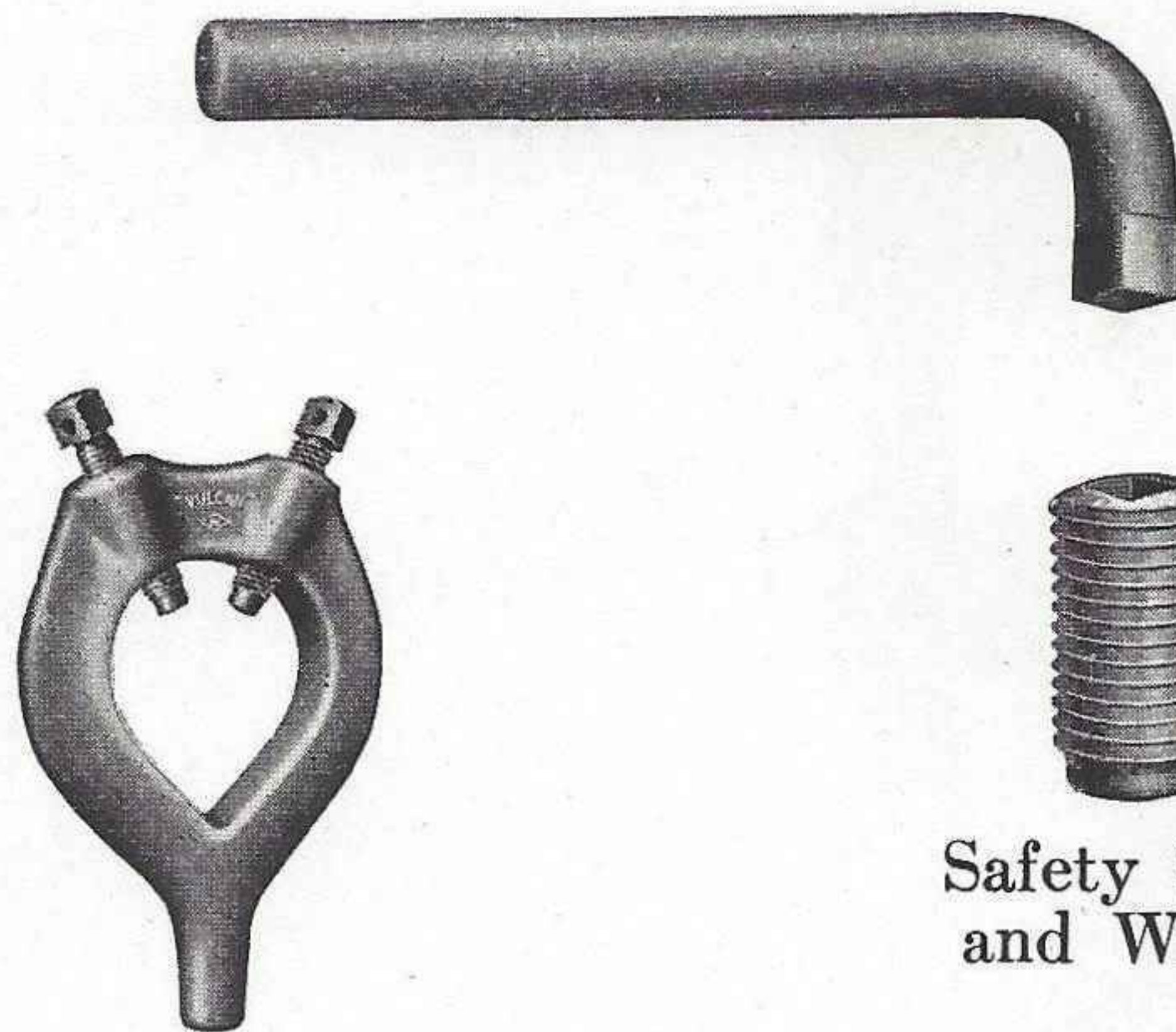
Dogs with Safety Screws will be supplied, unless otherwise specified.

No.	Capacity	SCREWS						PRICE		No.
		Square Head			Safety			Safety Dog Wrench, extra	Dog complete with either Screw	
		Size		Price, each	Size		Price, each			
		Diam.	Length Under Head		Diam.	Extreme Length				
21	3/8	5/16	1 1/4	\$.16	7/16	5/8	\$.20	\$.12	† \$ 1.00	21
22	1/2	3/8	1 1/4	.20	9/16	13/16	.24	.14	† 1.10	22
23	3/4	7/16	1 5/8	.24	5/8	1 1/16	.30	.16	† 1.20	23
24	1	1/2	2	.30	11/16	1 1/4	.36	.16	† 1.40	24
25	1 1/4	1/2	2 1/4	.32	3/4	1 3/8	.42	.20	† 1.70	25
26	1 1/2	9/16	2 3/8	.36	13/16	1 5/8	.50	.24	† 2.00	26
27	1 3/4	5/8	2 1/2	.40	7/8	1 3/4	.60	.24	† 2.40	27
28	2	11/16	2 3/4	.46	1	1 7/8	.72	.30	† 2.80	28
29	2 1/2	11/16	3	.48	1 1/8	2	.86	.38	† 3.60	29
30	3	3/4	3 1/4	.54	1 1/4	2 1/8	1.04	.48	† 4.60	30
31	3 1/2	7/8	3 1/2	.64	1 3/8	2 1/2	1.26	.60	† 6.00	31
32	4	7/8	3 3/4	.70	1 1/2	2 5/8	1.50	.74	† 9.00	32
33	5	1	4 1/2	1.00	1 5/8	3 1/8	1.80	.90	† 16.00	33

† Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price stated in table.
 Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

♦ "VULCAN"
 DROP-FORGED HEAVY SERVICE LATHE DOGS
 WITH STRAIGHT TAIL AND TWO SCREWS



Non-Safety Dog
 with
 Square Head Screws

Safety Screw
 and Wrench



Safety Dog and Screws

Safety-for-the-operator and better balance when on the lathe are material improvements which have been attained in this design.

The Screws are of special steel, hardened and tempered, and are threaded U. S. Standard, except that those above 1 inch diameter have eight threads per inch.

By drilling and tapping for the different diameters, the Dogs may be furnished with either Safety or old style (non-safety) Set Screws. The two types of Screws, however, are not interchangeable, and the safety feature is eliminated if the old style Screws are used. Please use numbers and state which Screw is desired.

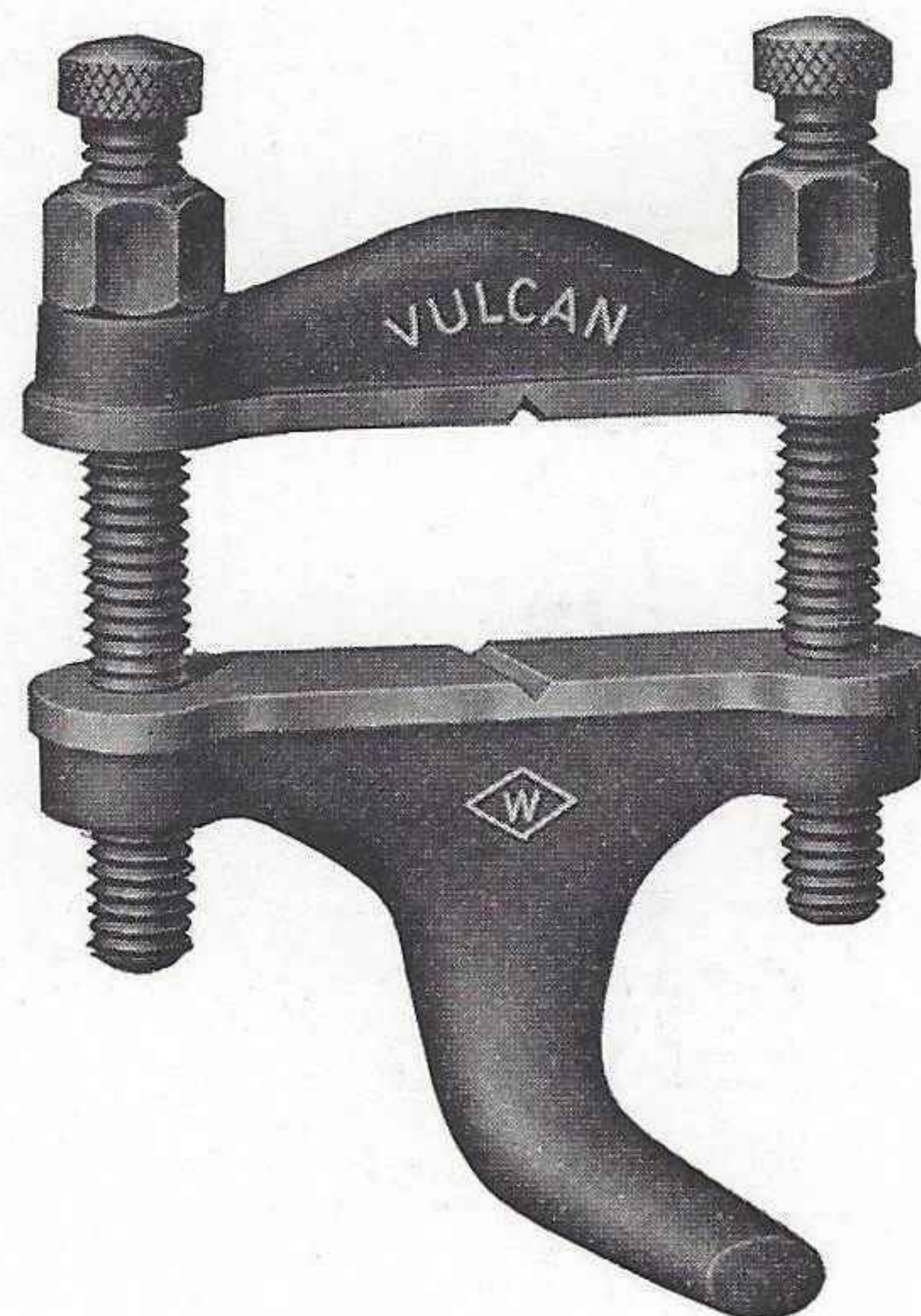
Dogs with Safety Screws will be supplied, unless otherwise specified.

No.	Capacity	SCREWS						PRICE		No.
		Square Head			Safety			Safety Dog Wrench, Extra	Dog with either Screw	
		Size		Price, Each	Size		Price, Each			
		Diam.	Length Under Head		Diam.	Extreme Length				
132	4	7/8	3 3/4	\$.70	1 1/2	2 5/8	\$ 1.50	\$.74	† \$ 16.00	132
133	5	1	4 1/2	1.00	1 5/8	3 1/8	1.80	.90	† 24.00	133
134	6	1	4 1/2	1.00	1 3/4	3 1/2	2.30	1.10	† 34.00	134

† Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price stated in table.
 Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

✦ "VULCAN"
 DROP-FORGED CLAMP LATHE DOGS



These are drop-forged from a strong, tough grade of carefully selected steel and are heat-treated after forging to increase further their stiffness and strength and reduce the liability of springing.

The Screws, threaded U. S. Standard, are made of a special grade of steel, and are hardened and tempered. The Nuts are case-hardened. Extra Screws and Nuts carried in stock.

The Nuts furnish ready means of arrangement for the minimum projection of Screws beyond the body of Dog and thus lessen the danger to the operator when tool is in use.

Packed two in a box for convenient shelving.

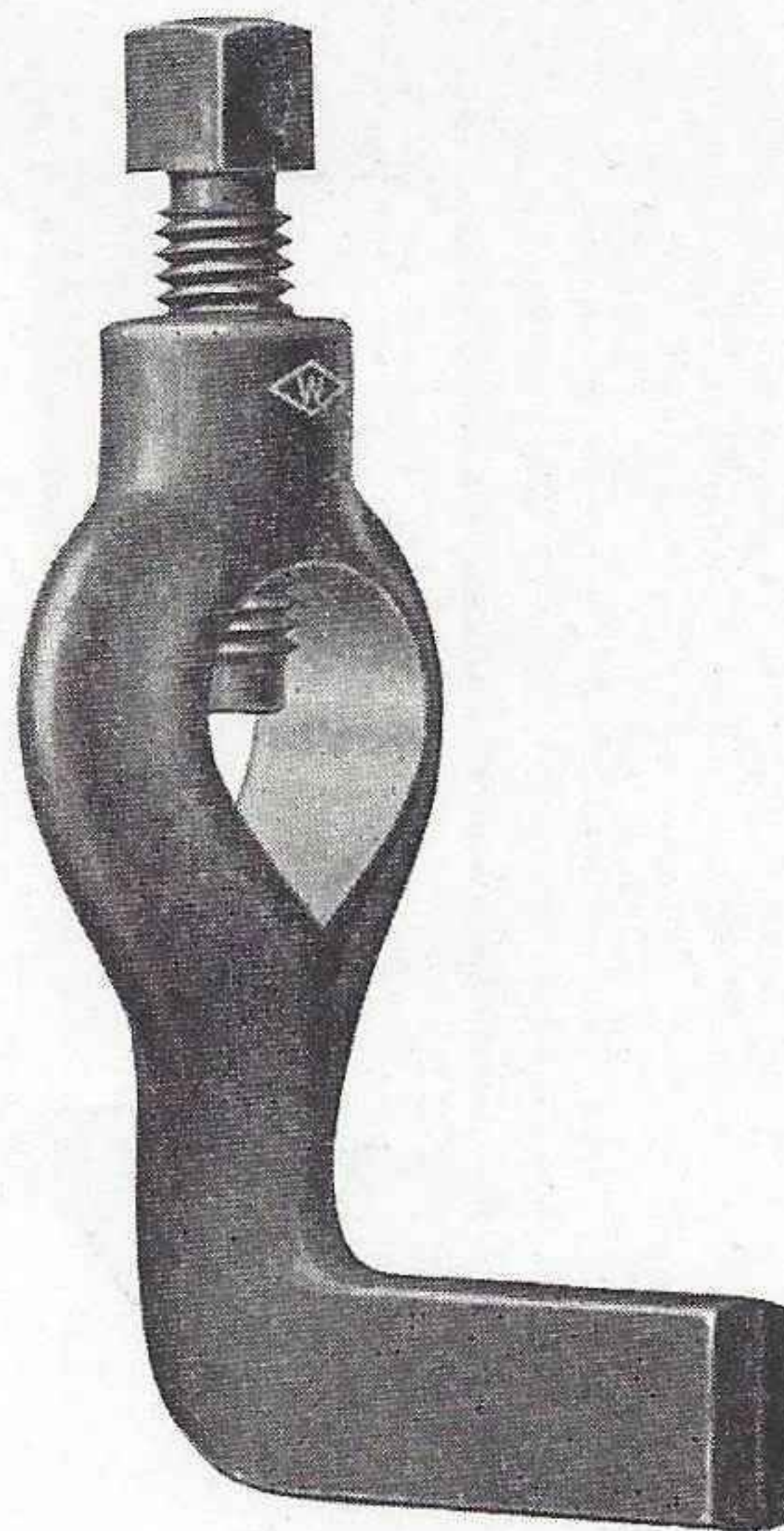
Number	Capacity		Screws		PRICE, Dog Complete	Number
	Maximum Opening	Distance Between Screws	Diameter	Length Under Head		
61	1 5/8	1 3/4	5/16	2 3/4	\$ 3.00	61
62	1 7/8	2 1/4	3/8	3 5/16	4.00	62
63	2 1/2	2 3/4	7/16	4 1/4	5.00	63
64	3 1/4	3 1/2	1/2	5 3/8	7.00	64

Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

♦ "VULCAN"
 DROP-FORGED MILLING MACHINE DOGS

With Flat, Bent Tail



These are designed for taper work carried between centers on milling machines, the flat tail works in the head-slot without the back-lash unavoidable in Dogs with taper tail. They serve also as a heavy pattern Lathe Dog.

The heads are made of sufficient size to permit re-tapping for one or two larger sizes of screws as the threads wear.

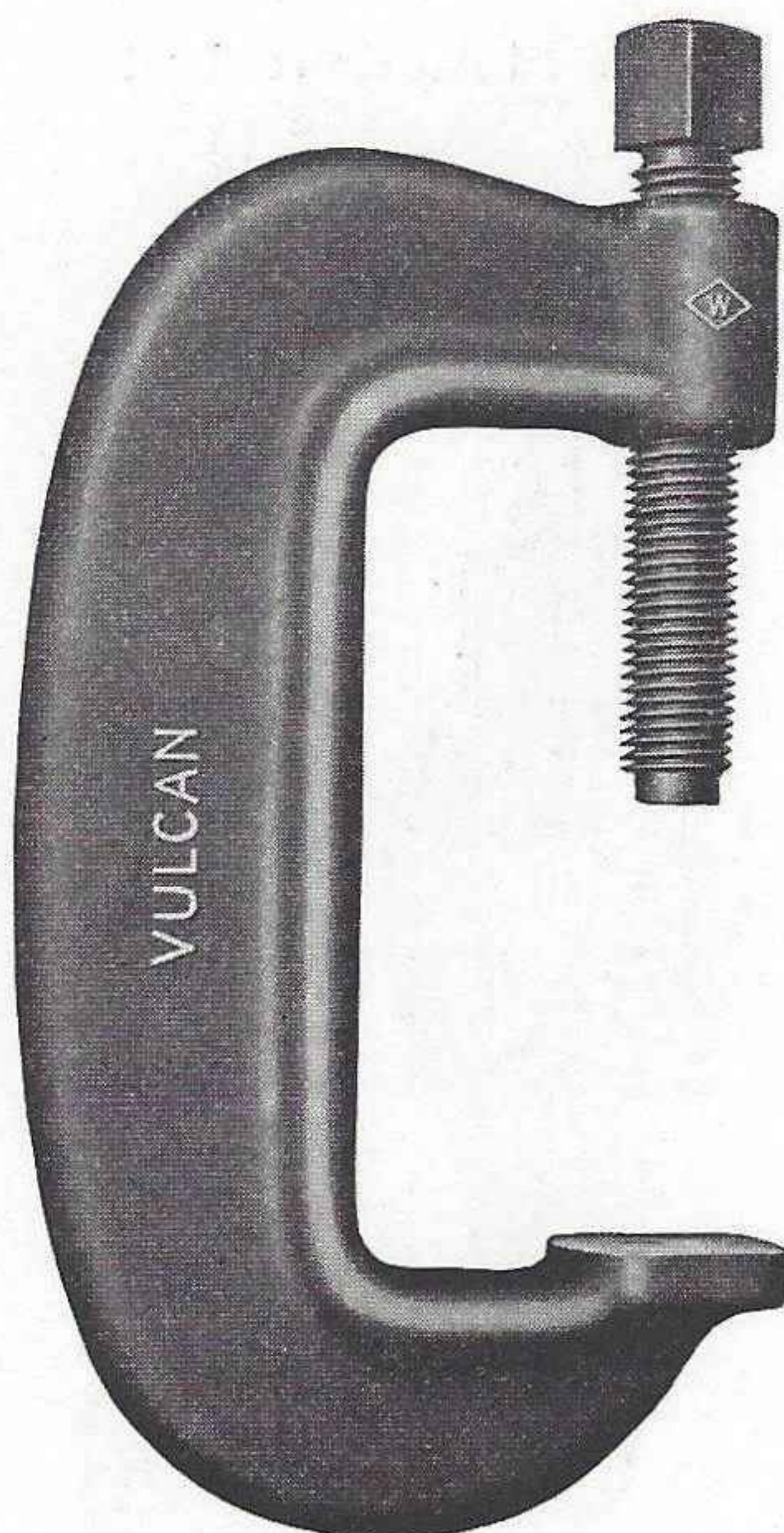
The Screws, threaded U. S. Standard, are made of a special grade of steel and are hardened and tempered.

Number	Capacity	Screw		PRICE		Number
		Diameter	Length Under Head	Extra Screws, Each	Dog Complete	
42	1/2	3/8	1 1/4	\$.20	\$ 1.10	42
43	3/4	7/16	1 5/8	.24	1.20	43
44	1	1/2	2	.30	1.40	44
45	1 1/4	1/2	2 1/4	.32	1.70	45
46	1 1/2	9/16	2 3/8	.36	2.00	46
47	1 3/4	5/8	2 1/2	.40	2.40	47
48	2	11/16	2 3/4	.46	2.80	48

Weights given pages 163 to 170.

♦ REGISTERED TRADE MARK

★“VULCAN”
 DROP-FORGED HEAVY SERVICE “C” CLAMPS



These are drop-forged from a strong, tough grade of carefully selected steel. Specially heat-treated to increase further their stiffness and strength and reduce the liability of springing, they are the strongest “C” Clamps on the market.

The Screws, threaded U. S. Standard, are made of a special grade of steel and are hardened and tempered.

With Long Screws the minimum capacity of all Clamps will be 0.

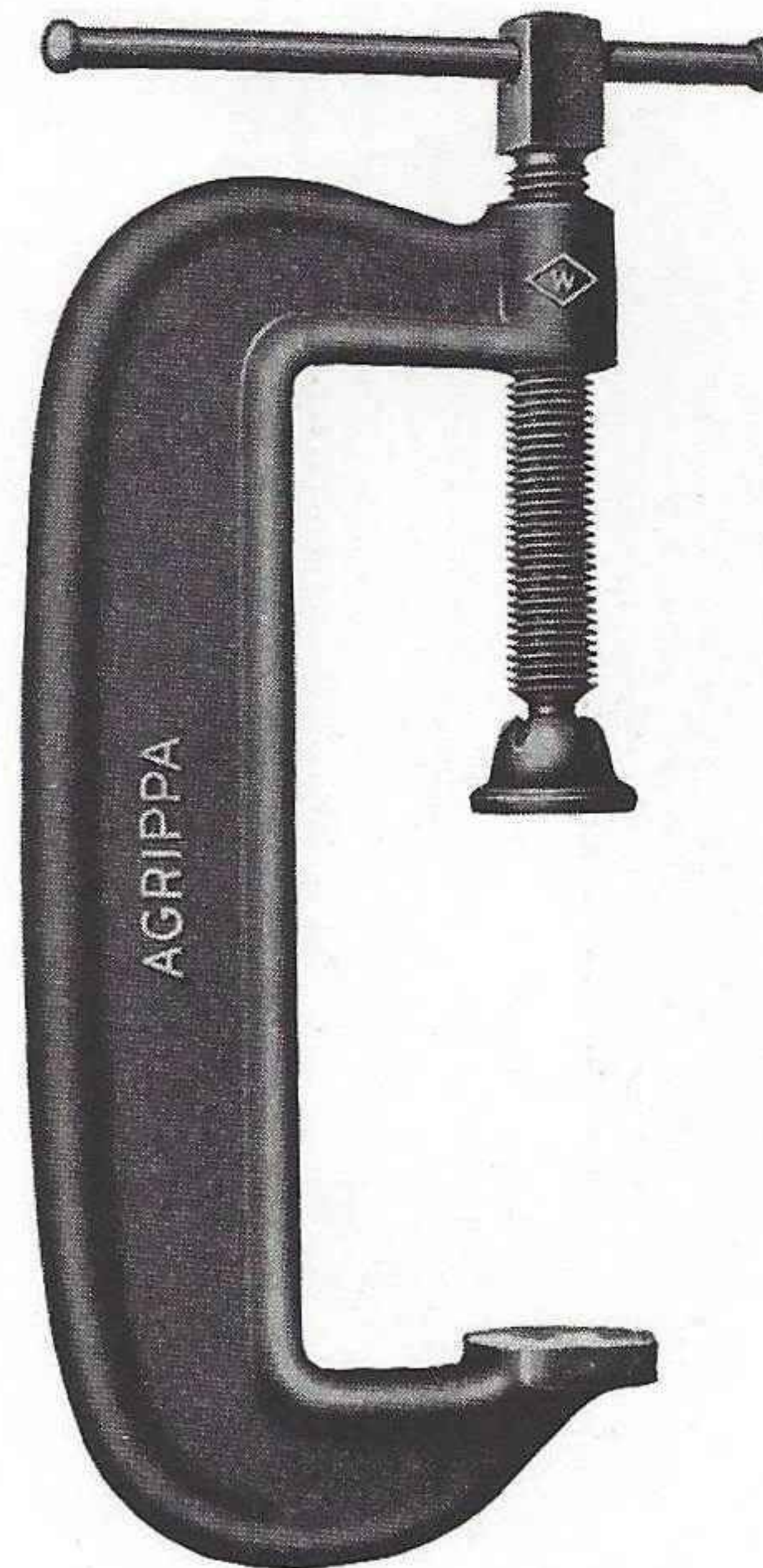
Unless otherwise specified, Clamps with Standard Screws will be furnished.

No.	Capacity		Depth of Throat Center of Screw	Extreme Dimensions of Body		Standard Screw		PRICE			
	Max.	Min. With Std. Screw		Length	Width	Diam.	Length Under Head	Extra Screws		Clamps Complete with Either Screw	No.
								Standard Each	Long Each		
0	3/4	0	3/4	2 1/4	2	5/16	1 1/2	\$.20		\$ 1.00	0
1	1 1/4	0	1 1/8	3 1/4	2 3/4	3/8	2 1/4	.24		1.50	1
1 1/2	1 3/4	11/16	1 1/2	4 1/4	3 5/8	1/2	2 1/4	.28	\$.80	2.50	1 1/2
2	2 1/4	7/8	1 3/4	5 1/2	4 1/2	5/8	2 7/8	.40	1.16	3.50	2
3	3 1/4	1 5/16	2 3/8	7 1/4	5 3/4	3/4	3 3/4	.56	1.56	5.00	3
4	4 1/2	2	2 3/4	8 7/8	6 1/2	7/8	4 1/2	.76	2.00	6.50	4
5	5 1/2	2 1/2	3 1/8	10 3/8	7	7/8	5 3/8	1.00	2.50	8.00	5
6	6 1/2	3 1/16	3 3/8	12	7 7/8	1	5 7/8	1.30	3.10	10.00	6
8	8 1/2	4 1/4	3 3/4	14 3/8	8 1/2	1 1/8	7	1.70	4.20	14.00	8
10	10 1/2	6 3/8	4 1/8	16 7/8	9	1 1/8	7	1.70	5.10	19.00	10
12	12 1/2	7 5/8	4 1/2	19 3/8	9 3/4	1 1/4	8	2.40	7.20	25.00	12

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

★“AGRIPPA”
 DROP-FORGED GENERAL SERVICE “C” CLAMPS



The [design [of] these] lighter Clamps enables them to provide the service formerly rendered by the heavier and clumsier steel clamps made by other processes. They are drop-forged from a special grade of strong, tough steel and are heat-treated. This process increases still further their natural stiffness and strength and reduces any liability of springing.

The Screws, fitted with adjustable handle, are made of special steel, hardened and tempered; threaded U. S. Standard. The Swivels are drop-forged.

No.	Capacity		Depth of Throat from Center of Screws	Extreme Dimensions of Body		Screw		Size Handle		Approx. Weight Each, Lbs.	PRICE		No.
	Max.	Min.		Length	Width	Diam.	Length with Swivel	Diam.	Lgth.		Extra Screw, Handle and Swivel	Clamp Complete	
104	4	5/8	2 3/8	8 1/4	5 1/8	3/4	6	3/8	7	4 1/4	\$ 1.40	\$ 4.50	104
106	6	2 5/8	2 1/2	10 3/8	5 3/8	3/4	6	3/8	7	5 1/2	1.40	5.50	106
108	8	4 11/16	2 5/8	12 1/2	5 1/2	3/4	6	3/8	7	6	1.40	6.50	108
110	10	6 11/16	2 3/4	14 5/8	5 3/4	3/4	6	3/8	7	7 1/2	1.40	7.50	110
112	12	8 11/16	2 7/8	16 7/8	6	3/4	6	3/8	7	9 1/2	1.40	8.50	112
115	15	10	3 1/16	20 1/4	6 1/2	7/8	8 1/8	7/16	8	13 1/2	2.40	11.00	115
118	18	13	3 1/4	23 1/2	7	7/8	8 1/8	7/16	8	17	2.40	14.00	118

★ REGISTERED TRADE MARK

**"LIGHT SERVICE"
 DROP-FORGED "C" CLAMPS**



Drop-forged from specially selected steel and heat-treated to increase their stiffness and strength and to reduce the liability of springing. Their design is best adapted for use in the various wood and metal working fields which do not demand the extremes of strength and service for which "Vulcan" and "Agrippa" Clamps provide. They take the place of tools less dependable, yet frequently more costly.

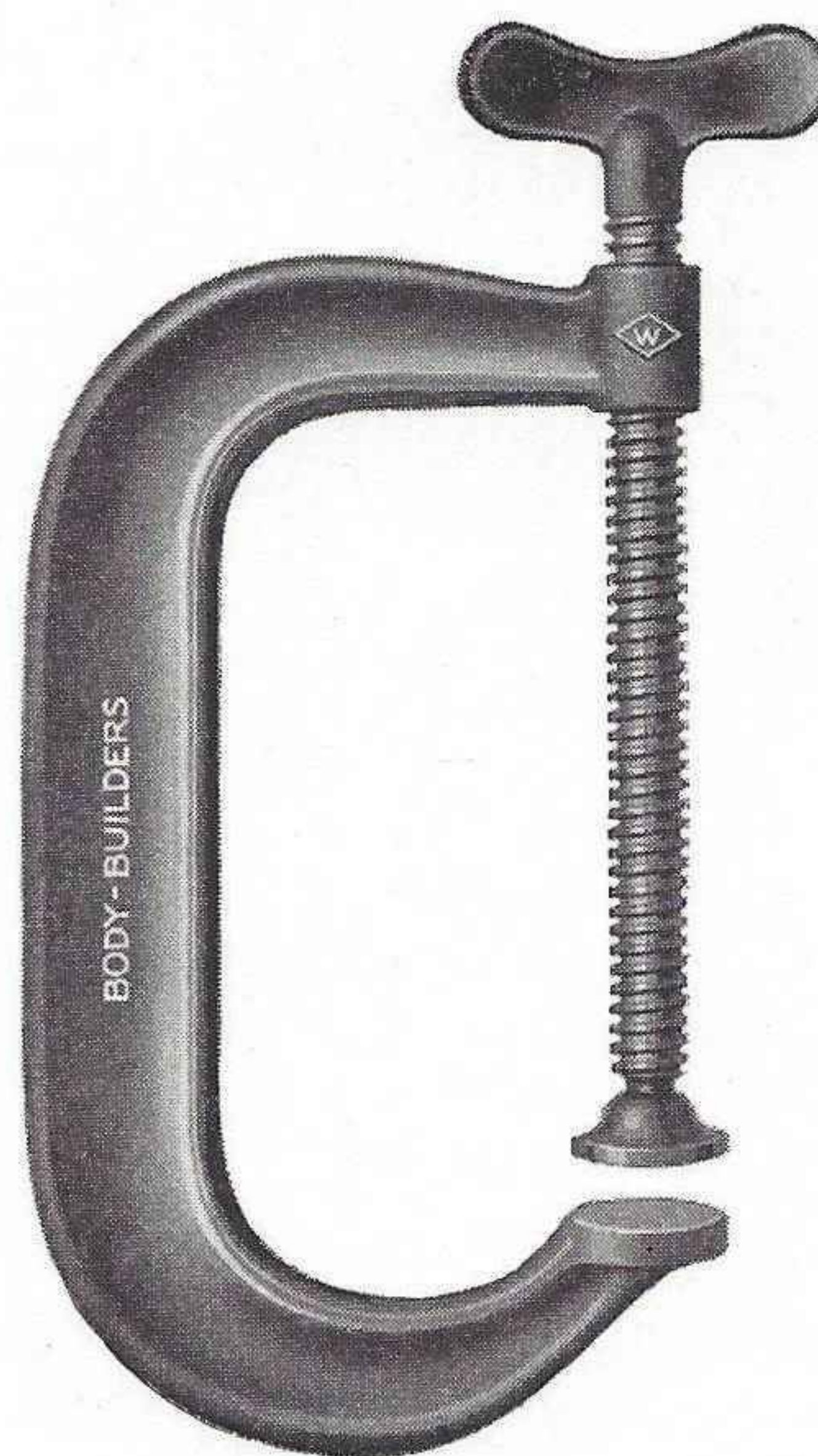
The Screws are made from tough, wrought steel and threaded especially for strength and rapid adjustment. Furnished with wrought steel Swivel, as illustrated.

No.	Capacity		Depth Throat from Center of Screw	Extreme Dimensions of Body		Screw		Approximate Weight Each, Pounds	PRICE		No.
	Max.	Min.		Length	Width	Diam.	Length Over All		Screw, Handle and Swivel	Clamps Complete	
502	2	0	1 3/4	4 3/8	3 1/4	1/2	4 3/8	3/4	\$.60	\$ 1.50	502
503	3	0	2	5 1/2	3 5/8	1/2	5 3/8	1 1/4	.70	1.80	503
504	4	0	2 3/8	6 7/8	4 3/8	5/8	7	2	.80	2.20	504
506	6	0	3	9 3/8	5 1/4	5/8	8 1/4	3	1.00	3.00	506
508	8	2	3 3/8	11 7/8	5 7/8	3/4	10	4 1/2	1.20	4.00	508
510	10	3	3 3/4	14 1/8	6 3/8	3/4	11	6	1.50	5.00	510
512	12	4	4	16 3/8	6 7/8	13/16	12 1/2	7 1/2	2.00	6.50	512

A special clamp No. 444, 4" capacity, with throat 1 1/2" deep, can be furnished; details on request.

**“BODY-BUILDERS”
DROP-FORGED “C” CLAMPS**

WITH DEEP THROAT AND SOLID, DROP-FORGED SCREW



Especially designed for body-builders, woodworkers and kindred trades, where the clearance provided by a deep throat is required. They are superior substitutes for less reliable cast tools.

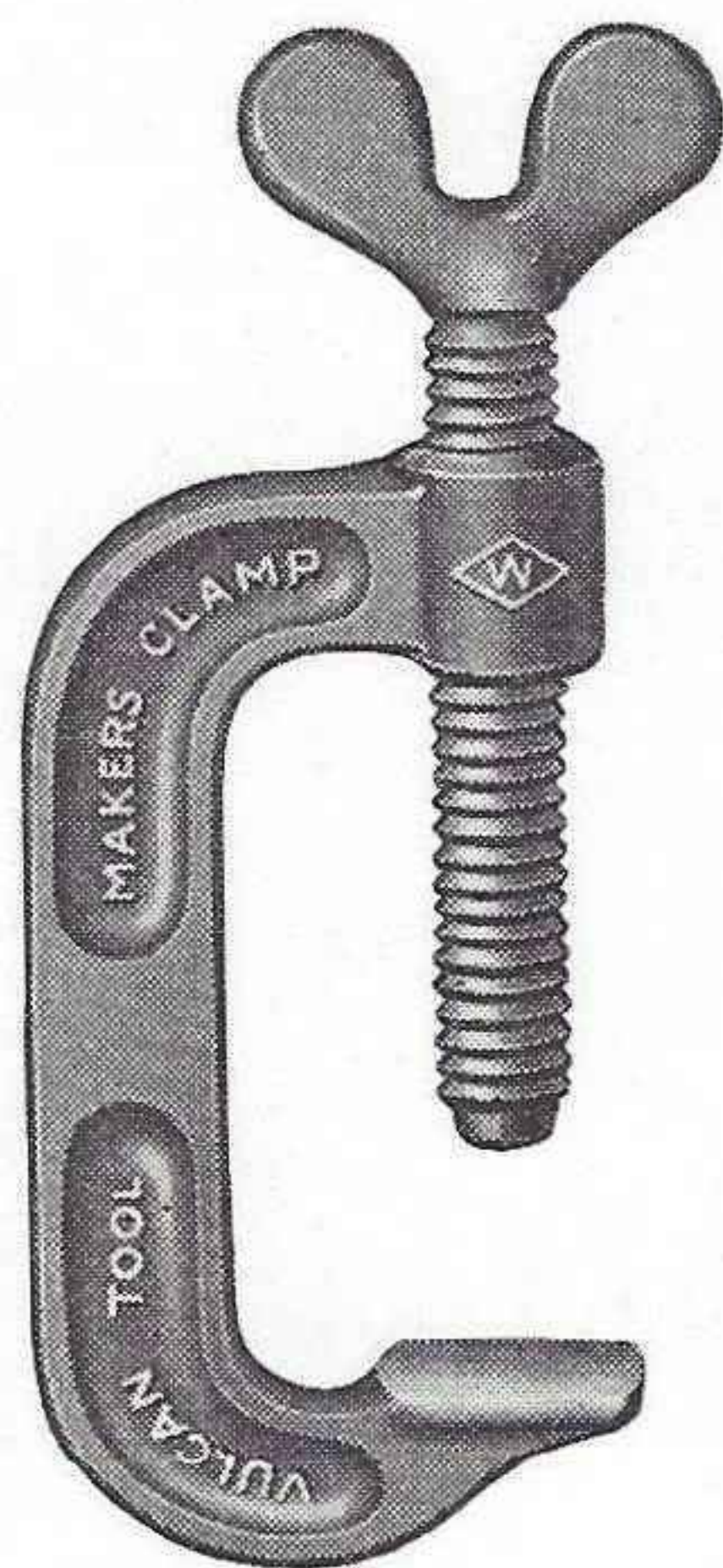
Drop-forged from an unusually strong special steel and heat-treated for maximum stiffness, they combine a deep throat of ample size with dependable strength at minimum weight.

The Screws are drop-forged in one piece, with no handle or wings to loosen, and provide a firm, solid lever, recessed and rounded for easy hand-grip. They are threaded specially for strength and rapid adjustment. Swivels are provided on all sizes.

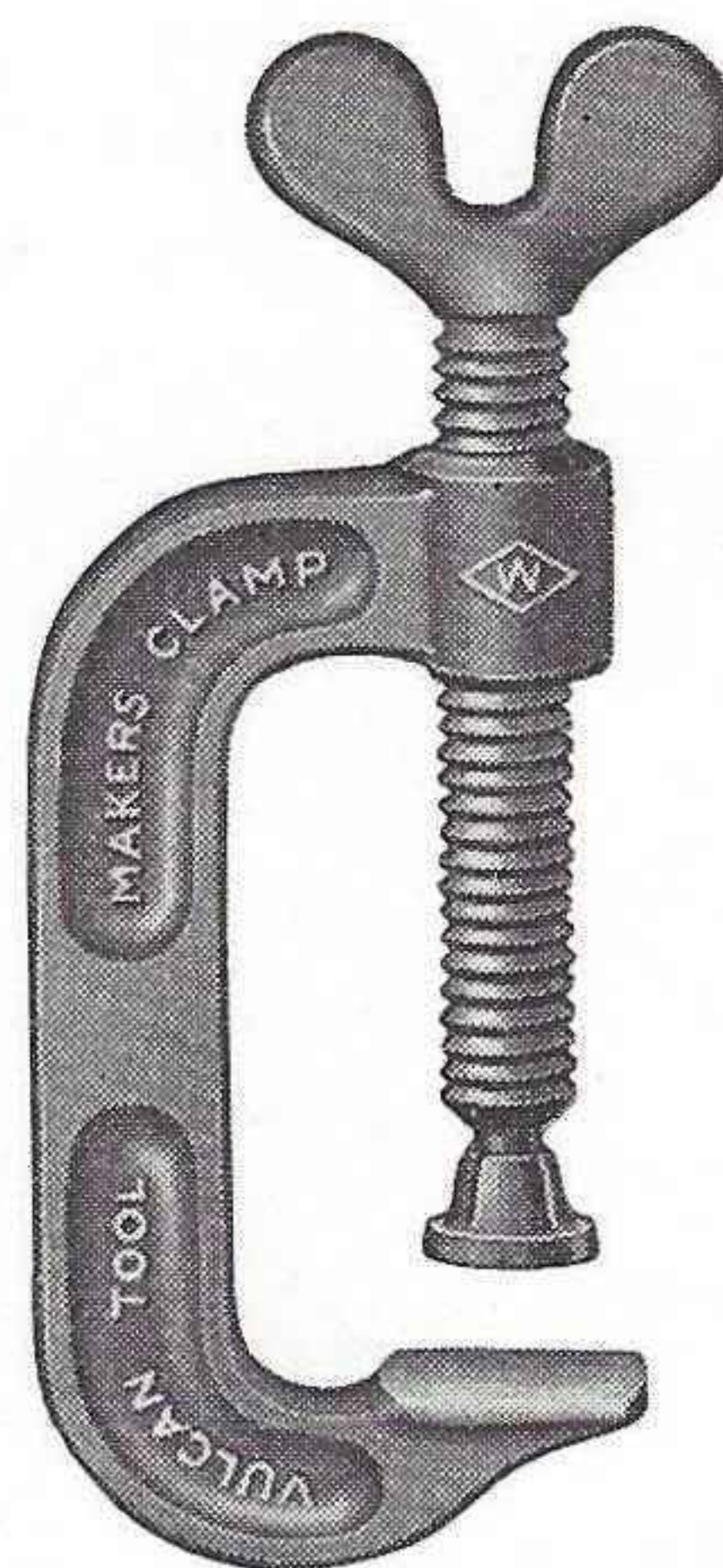
No.	Capacity		Depth of Throat from Center of Screw	Extreme Dimensions of Body		Screw		Approx. Weight each, lbs.	PRICE		No.
	Max.	Min.		Length	Width	Diam.	Length Over All		Screw, and Swivel	Clamps Complete	
402	2	0	2	4 7/8	3 3/4	1/2	4 7/8	1 1/8	\$.60	\$ 1.50	402
403	3	0	2 3/8	6 1/8	4 1/8	1/2	6 1/8	1 1/2	.70	1.80	403
404	4	0	2 3/4	7 5/8	4 3/4	5/8	8 1/2	2 1/4	.80	2.20	404
406	6	0	3 5/8	10 1/4	6	5/8	10 1/2	3 3/4	1.00	3.00	406
408	8	2	4 1/2	12 3/4	7	3/4	11	5 1/2	1.20	4.00	408
410	10	3	5 3/8	15 1/4	8 1/8	3/4	12	8 1/4	1.50	5.00	410
412	12	4	5 3/4	18	9 3/8	7/8	13 1/4	12 1/2	2.00	6.50	412

A special clamp, No. 444, 4" capacity, with throat 1 1/2" deep, can be furnished; details on request.

✦ "VULCAN"
 DROP-FORGED TOOL-MAKERS' "C" CLAMPS



With Plain Screw



With Swivel Screw

These Clamps are drop-forged from a strong, tough grade of steel and are heat-treated after forging to increase further their strength and stiffness and reduce the liability of springing.

The Screws, with wings formed to permit use of lever, are supplied in two styles—Removable-Swivel and Plain. They are drop-forged from a special grade of steel and are hardened and tempered; threaded U. S. Standard.

Clamp bodies are shot-blasted; screws, black.

Packed singly in boxes, or in sets if specified.

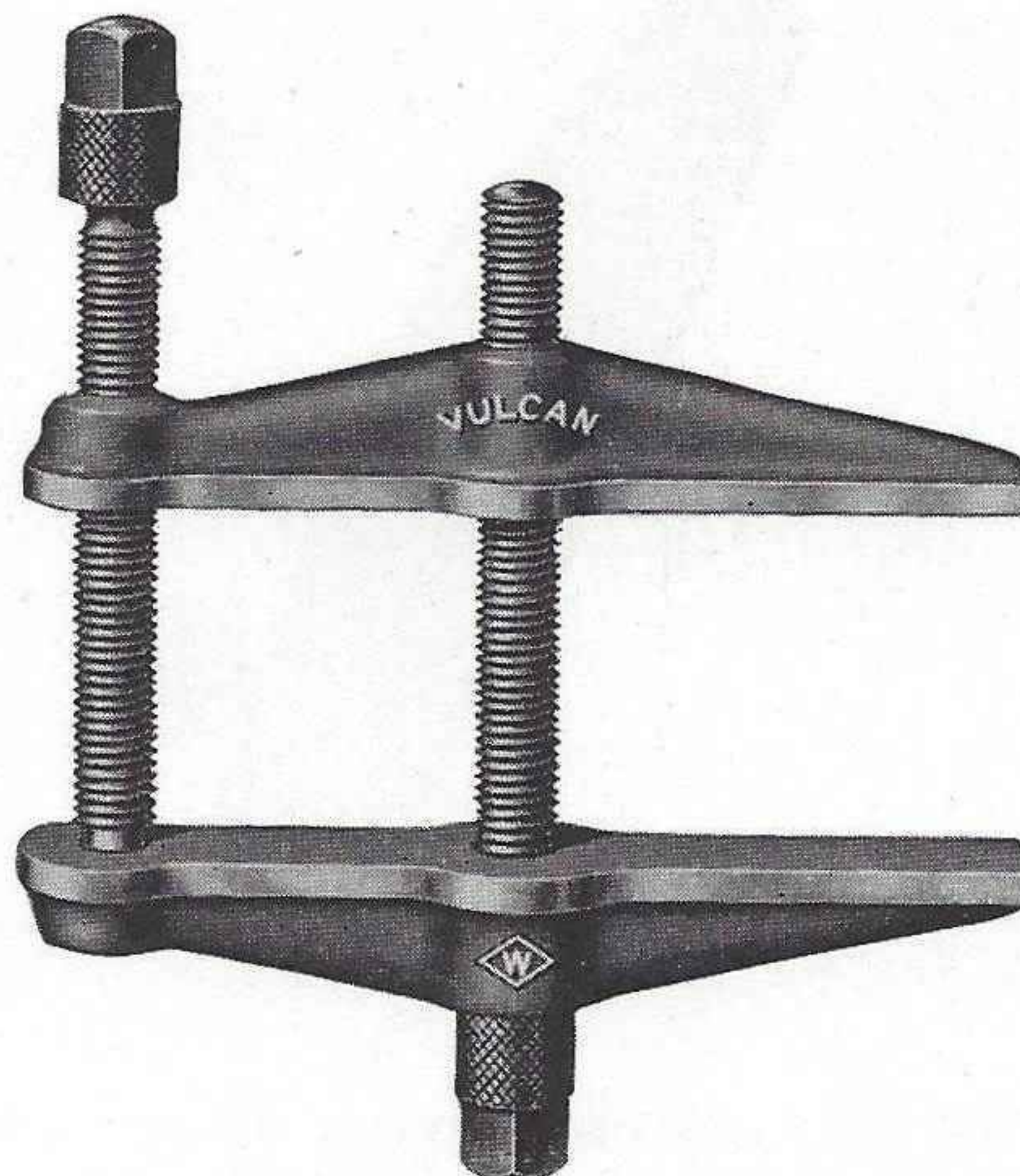
Clamps with Swivel Screw will be furnished, unless otherwise specified.

No.	Capacity		Depth of Throat	Extreme Dimensions		Screw		PRICE		No.
	Max.	Min.		Length	Width	Diam.	Length	Extra Screw Only	Clamp, Complete	
WITH PLAIN SCREW										
201	1	0	11/16	2 1/8	1 1/2	5/16	1 11/16	\$.40	\$ 1.00	201
202	2	5/16	13/16	3 3/8	1 7/8	3/8	2 7/16	.50	1.30	202
203	3	11/16	15/16	4 1/2	2 1/8	3/8	3 3/16	.60	1.70	203
204	4 1/4	1 3/16	1 1/8	6 3/8	2 1/2	7/16	4 1/8	.80	2.50	204
WITH REMOVABLE-SWIVEL SCREW										
201	3/4	0	11/16	2 1/8	1 1/2	5/16	1 11/16	\$.90	\$ 1.50	201
202	1 3/4	5/16	13/16	3 3/8	1 7/8	3/8	2 7/16	1.00	1.80	202
203	2 3/4	11/16	15/16	4 1/2	2 1/8	3/8	3 3/16	1.20	2.30	203
204	4	1 3/16	1 1/8	6 3/8	2 1/2	7/16	4 1/8	1.50	3.20	204

Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

★ "VULCAN"
 DROP-FORGED MACHINISTS' CLAMPS



These Clamps are drop-forged from a strong, tough grade of carefully selected steel; all are heat-treated to increase still further their strength and stiffness and to reduce the liability of springing.

The knurled portion of the hardened and tempered Screws permits rapid and easy adjustment.

The edges of the jaws are ground bright, thus adding to the appearance of the Clamp.

When ordering extra Screws specify whether for *end* or *center*; lengths given are under-head dimensions and prices are for each of either screw.

Each Clamp is packed in a box for convenient shelving.

No.	Capacity		Screws				PRICE		No.
	Maxi- mum Opening	Length Jaw from Screw	End		Center		Extra Screws Each	Complete Clamp	
			Diam.	Length	Diam.	Length			
301	1 1/4	1 3/4	5/16	2 1/8	5/16	2 5/8	\$.50	\$ 3.00	301
302	2 1/4	2 1/4	3/8	3 1/4	3/8	3 15/16	.70	4.00	302
303	3 1/4	2 3/4	7/16	4 5/8	7/16	5 1/4	1.00	5.00	303
304	4 1/4	3 1/4	1/2	5 3/4	1/2	6 1/2	1.40	6.00	304

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

✦ "VULCAN"
 DROP-FORGED STRAP CLAMPS



Plain Slot



Adjustable Step



Goose Neck

These forgings are made from a strong, tough grade of carefully selected steel and are heat-treated after forging to increase their strength and stiffness.

On Planer, Lathe, Drill Press, Milling and Boring Machine work they are time-saving and effective—far more efficient than any make-shift clamp.

(Continued on following page)

PLAIN SLOT PATTERN

No.	Length	Width		Thickness		Slot; Min. Dimensions		PRICE	No.
		Ends	Center	Ends	Center	Length	Width		
54	4	1 3/16	1 5/8	1/2	3/4	1 3/8	11/16	\$.60	54
56	6	1 1/4	1 3/4	9/16	7/8	2 1/16	11/16	1.00	56
58	8	1 1/2	2 1/8	3/4	1 1/8	2 13/16	13/16	1.70	58
59	10	1 3/4	2 1/2	15/16	1 3/8	3 11/16	15/16	2.80	59

ADJUSTABLE STEP PATTERN

No.	Length	Width		Thickness		Slot; Min. Dimensions		Screws		PRICE		No.
		Ends	Center	Ends	Center	Length	Width	Diam.	Length Under Head	Extra Screws, each	Complete Clamps, each	
54 A	4	1 3/16	1 5/8	1/2	3/4	1 3/8	11/16	1/2	1 1/4	\$.28	\$ 1.10	54 A
56 A	6	1 1/4	1 3/4	9/16	7/8	2 1/16	11/16	5/8	1 1/2	.36	1.70	56 A
58 A	8	1 1/2	2 1/8	3/4	1 1/8	2 13/16	13/16	3/4	1 3/4	.50	2.60	58 A
59 A	10	1 3/4	2 1/2	15/16	1 3/8	3 11/16	15/16	7/8	2 1/8	.70	4.00	59 A

GOOSE NECK PATTERN

No.	Length	Width		Thickness		Slot; Min. Dimensions		Neck Offset	PRICE	No.
		Ends	Center	Ends	Center	Length	Width			
74	4	1 3/16	1 5/8	3/8 & 1/2	3/4	15/16	11/16	13/16	\$.60	74
76	6	1 1/4	1 3/4	7/16 & 9/16	7/8	1 11/16	11/16	15/16	1.00	76
78	8	1 1/2	2 1/8	9/16 & 3/4	1 1/8	2 7/16	13/16	1 1/8	1.70	78

Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

★ "VULCAN"
 DROP-FORGED STRAP CLAMPS



Finger, Double End

Finger, Single End

"U" Pattern

(Continued from previous page)

Because of draft or taper on the edges of forgings, minimum dimensions of slot are given in table.

FINGER PATTERN, DOUBLE END

No.	Length	Width Center	Thickness Center	Min. Diameter Hole	Finger Dimensions	PRICE	No.
30	3	1 1/2	5/8	11/16	1/2 x 1/2	\$.40	30
35	3 1/2	1 5/8	3/4	11/16	5/8 x 5/8	.50	35
40	4	1 13/16	7/8	13/16	3/4 x 3/4	.70	40

FINGER PATTERN, SINGLE END

No.	Length	Width		Thickness		Slot; Min. Dimensions		Finger Dimensions	PRICE	No.
		Flat End	Center	Flat End	Center	Length	Width			
44	4	1 3/16	1 5/8	7/16	3/4	1 3/8	11/16	1/2 x 1/2	\$.60	44
46	6	1 1/4	1 3/4	1/2	7/8	1 15/16	11/16	5/8 x 5/8	1.00	46
48	8	1 1/2	2 1/8	5/8	1 1/8	2 9/16	13/16	3/4 x 3/4	1.70	48

"U" PATTERN

No.	Length	Maximum Width	Thickness	Slot; Min. Dimensions		Finger Dimensions	PRICE	No.
				Length	Width			
64	4 1/2	1 3/4	3/4	3 1/2	11/16	1/2 x 1/2	\$.60	64
66	6 5/8	2	7/8	5 1/2	11/16	5/8 x 5/8	1.00	66
68	8 3/4	2 1/2	1 1/8	7 3/8	13/16	3/4 x 3/4	1.70	68

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

✦ "VULCAN"
 EXTERNAL CALIPER GAUGES
 DOUBLE END—UNFINISHED



These are drop-forged from mild steel, suitable for case-hardening. We will supply directions for hardening or will case-harden to order, but we cannot undertake machining.

The lettering-panels and sides of jaws are on same plane and may be finished by a single grinding or polishing operation.

The special size of the measuring-jaw or pad provides for unusual advantages; five classes of gauges may be made from one forging;

1. Plain gauge; same dimensions both ends.
2. Gauge with one end of exact dimension, other end for two limits allowed.
3. Gauge with any two dimensions within range of table limits.
4. Gauge of the "go on" and "not go on" variety; two combinations.
5. Plain gauge; four dimensions.

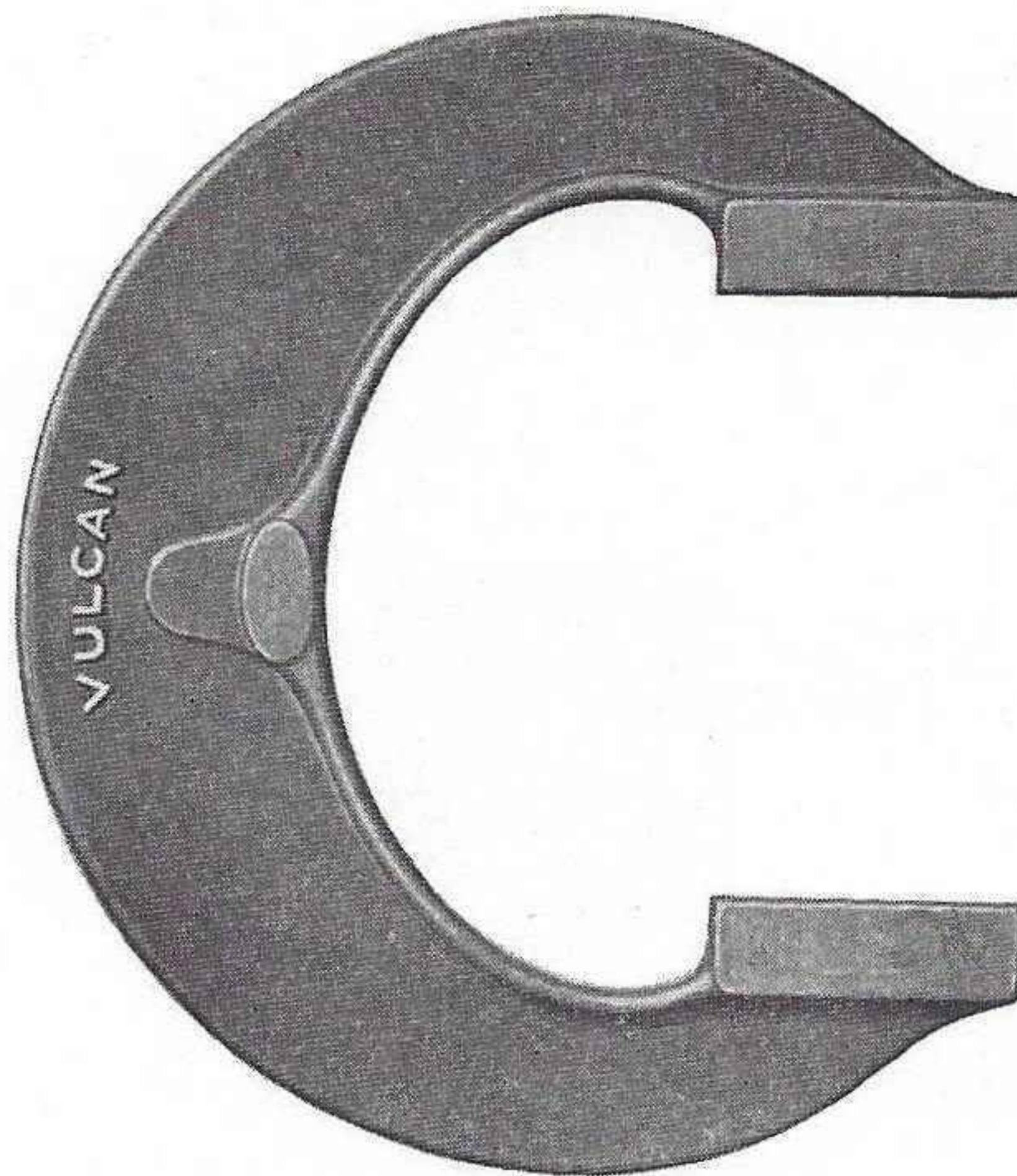
†Furnished from stock till supply is exhausted; thereafter only on special order.

No.	Capacity	Extreme Dimensions		Dimensions of Measuring Pad		PRICE Unfinished	No.
		Length	Width	Length	Width		
† 2	1/4 to 3/8	2 1/8	15/16	15/32	3/16	\$.20	† 2
† 4	3/8 to 1/2	2 1/2	1 1/8	1/2	3/16	.22	† 4
† 6	1/2 to 3/4	3 1/8	1 9/16	19/32	1/4	.25	† 6
† 8	3/4 to 1	3 5/8	1 15/16	21/32	9/32	.30	† 8
† 10	1 to 1 1/4	4 3/8	2 3/8	3/4	9/32	.39	† 10
† 12	1 1/4 to 1 1/2	5	2 3/4	27/32	5/16	.53	† 12
† 14	1 1/2 to 1 3/4	5 9/16	3 1/16	15/16	5/16	.72	† 14
† 16	1 3/4 to 2	6 5/16	3 1/2	1	5/16	.96	† 16
† 18	2 to 2 1/2	7 1/4	4 5/16	1 5/32	15/32	1.25	† 18
† 20	2 1/2 to 3	8 9/16	5 1/8	1 11/32	1/2	1.60	† 20

Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

✦ "VULCAN"
 EXTERNAL CALIPER GAUGES
 SINGLE END—UNFINISHED



These are drop-forged from Mild Steel, suitable for case-hardening. We will supply directions for hardening, or will case-harden to order, but we cannot undertake machining.

They possess the same general characteristics as the Double End form on previous page.

Three classes of gauges may be made from one forging:

1. Plain gauge; single dimension.
2. Gauge with any two dimensions within range of table limits.
3. Gauge of the "go on" and "not go on" variety; one combination.

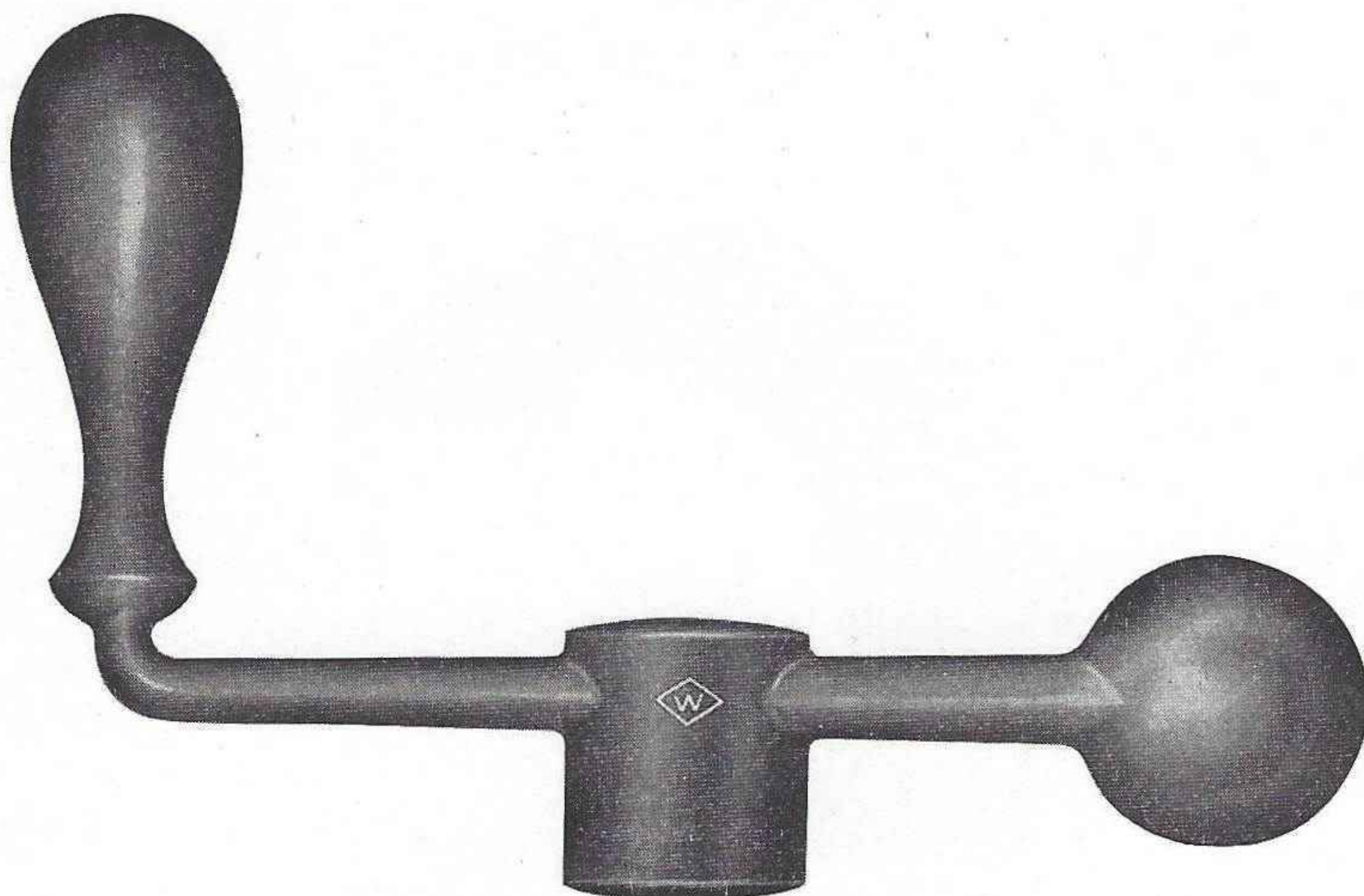
†Furnished from stock till supply is exhausted; thereafter only on special order.

No.	Capacity	Extreme Dimensions		Dimensions of Measuring Pad		PRICE Unfinished	No.
		Length	Width	Length	Width		
†22	3 to 3 1/2	5 1/8	5 3/4	1 1/2	1/2	\$ 1.00	†22
†24	3 1/2 to 4	5 11/16	6 1/2	1 11/16	17/32	1.20	†24
†26	4 to 4 1/2	6 1/4	7 3/16	1 13/16	17/32	1.45	†26
†28	4 1/2 to 5	6 13/16	7 13/16	2	9/16	1.75	†28
†30	5 to 5 1/2	7 7/16	8 5/8	2 1/8	9/16	2.10	†30
†32	5 1/2 to 6	7 15/16	9 3/16	2 9/32	9/16	2.50	†32
†34	6 to 6 3/4	8 13/16	10	2 1/2	23/32	3.25	†34
†36	6 3/4 to 7 1/2	9 11/16	11	2 3/4	3/4	4.00	†36

Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

★ "VULCAN"
 DROP-FORGED BALANCE HANDLES



Unfinished are plain forgings without any hole in hub.

Broached have holes finished, but are otherwise plain forgings.

Finished are broached, ground, polished, case-hardened all over and lacquered to prevent rusting.

The broached openings are made with corners slightly rounded to prevent breakage and a slight clearance is provided.

Holes are regularly finished to standard sizes given below but each forging admits of broaching to the maximum dimensions stated in table. Smaller openings than standard and special sizes can be broached to order. Handles can also be supplied with round holes in hub; details on application.

No.	Length			Hub		Square Hole, Size Broached		Ball, Diam.	PRICE			No.
	C Hub to C Handle	Ex-treme	Handle Above Arm	Diam.	Length	Standard in Stock	Maximum to Order		Unfinished	Broached	Finished	
512	1 1/4	3 5/16	1 15/16	7/8	3/4	7/16	1/2	7/8	\$.79	\$1.32	\$2.30	512
516	1 5/8	4	2 1/4	7/8	7/8	7/16	1/2	1 1/4	.87	1.40	2.45	516
‡ 520	2	5	2 5/8	1	15/16	1/2	5/8	1 1/4	.96	1.49	2.65	‡ 520
‡ 522	2 1/4	5 1/2	2 3/4	1 1/4	1	1/2	13/16	1 3/8	1.05	1.58	2.90	‡ 522
‡ 525	2 1/2	6	2 13/16	1 1/4	1 1/8	5/8	13/16	1 7/16	1.23	1.85	3.30	‡ 525
529	2 7/8	7	3 5/16	1 1/4	1 1/4	5/8	13/16	1 1/2	1.50	2.10	3.85	529
434	3 3/8	8	3 7/16	‡ 1 1/2	7/8	5/8	3/4	1 3/4	2.10	2.70	4.90	434
439	3 7/8	9	3 1/2	‡ 1 5/8	1 1/16	5/8	3/4	1 3/4	2.65	3.25	5.90	439

‡ Handle cone-shaped; see Crank Handle cut on opposite page.

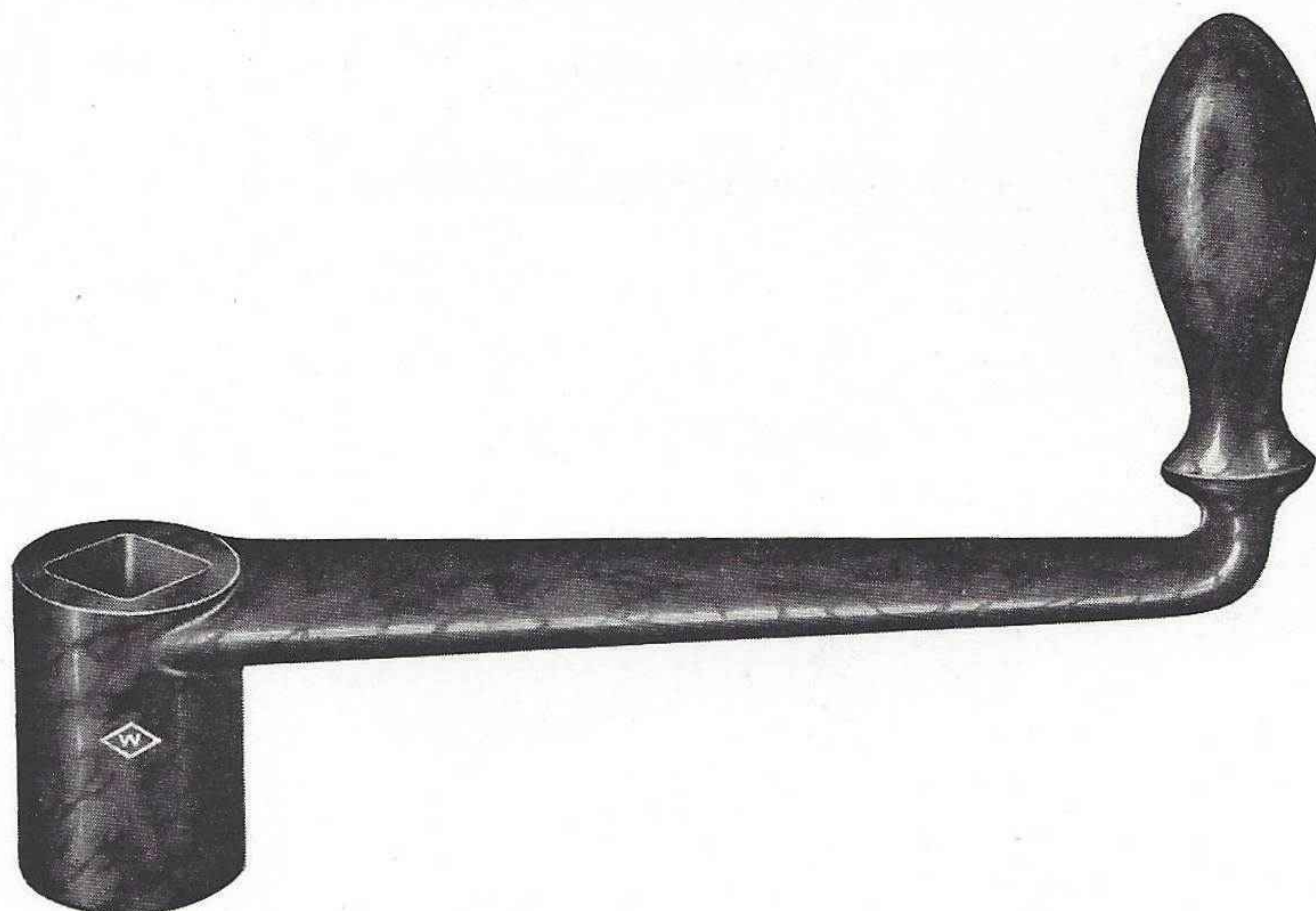
† Hub is a sphere, flattened on top and bottom; full size drawing on request.

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

★ "VULCAN"

DROP-FORGED CRANK HANDLES



Unfinished are plain forgings without hole in hub.

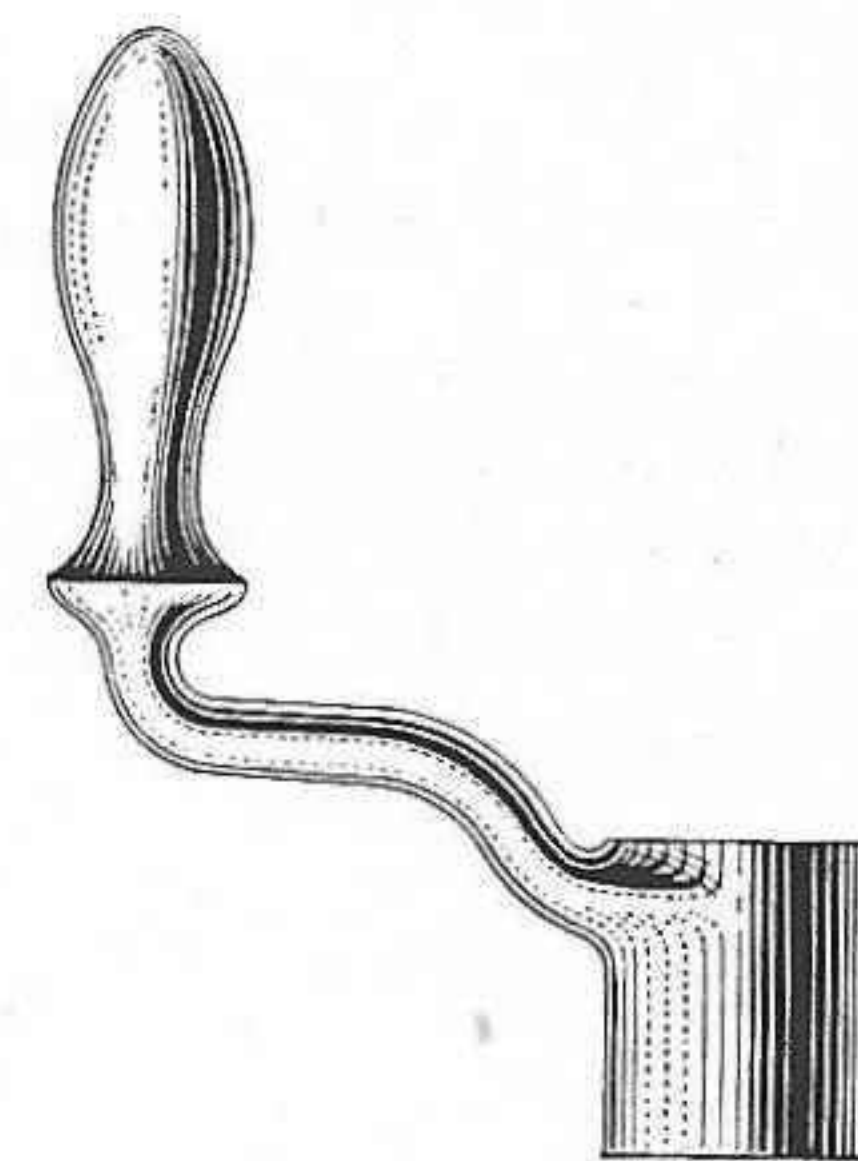
Broached have holes finished and hubs recessed or counter-bored in free end, but are otherwise plain forgings.

Finished are broached, counterbored in free end of hub, ground, polished, case-hardened all over and lacquered to prevent rusting.

The broached openings are made with corners slightly rounded to prevent breakage and a slight clearance is provided.

Holes are regularly finished to standard sizes given below, but each forging admits of broaching to the maximum dimensions stated. Smaller openings than standard and special sizes, running by sixteenths from 1/2 to 1 inch inclusive, and thence by eighths, can be broached to order.

Hubs of Broached, or Finished can be cut to shorter lengths and Handles will be offset (see small cut) if desired, at an additional charge.



No.	Length			Hub		Square Hole Size Broached		PRICE			No.
	Center to Center	Ex-treme	Handle above Arm	Diam.	Length	Standard in Stock	Maximum to Order	Unfin-ished	Broached	Finished	
00	1 3/4	2 5/8	2 3/8	1	1 1/4	1/2	5/8	\$.70	\$1.22	\$1.85	00
0	2 1/4	3 1/8	2 1/2	1	1 1/4	1/2	5/8	.78	1.30	2.00	0
1	3	4	2 3/4	1 1/4	1 1/2	9/16	13/16	.88	1.40	2.30	1
2	3 1/2	4 1/2	2 7/8	1 1/16	1 5/16	1/2	5/8	.88	1.40	2.30	2
4	4	5 1/8	3 1/8	1 1/4	1 3/8	9/16	13/16	1.05	1.60	2.65	4
6	5	6 1/8	3 1/8	1 1/4	1 13/16	5/8	13/16	1.30	1.95	3.15	6
8	6	7 1/8	3 1/8	1 1/4	1 15/16	11/16	13/16	1.65	2.40	3.85	8
10	7	8 1/4	3 3/8	1 3/8	2 1/16	3/4	7/8	2.10	2.95	4.75	10
12	8	9 3/8	3 5/8	1 9/16	2 7/16	7/8	1	2.65	3.60	5.80	12
14	9 1/8	10 1/2	3 3/4	1 1/2	2 1/2	7/8	1	3.00	4.00	6.50	14
16	10	11 1/2	4	1 3/4	3	1	1 1/8	3.95	5.15	8.15	16

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

✦ “VULCAN”

MACHINE HANDLE FORGINGS

UNFINISHED

With Smooth, Planished Surface

BALL PATTERN



Number	00	0	1	2	3	4	5	6	7
Extreme Length.....	2	2 1/4	2 3/4	3 1/4	3 7/8	4 1/2	5 1/8	5 7/8	6 5/8
Standard Length, Shank.....	1/2	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 1/2
Maximum Length, Shank.....	11/16	3/4	1	1 1/8	1 1/4	1 1/2	1 7/8	2	2 1/8
Diameter, Shank.....	5/16	11/32	13/32	15/32	15/32	17/32	19/32	11/16	3/4
PRICE.....	\$.21	\$.21	\$.23	\$.29	\$.36	\$.46	\$.57	\$.69	\$.84

CONE PATTERN



Number	11	13	15	16
Extreme Length.....	3 1/2	4 1/2	5 1/2	6
Standard Length, Shank.....	1/2	3/4	7/8	1 1/8
Maximum Length, Shank.....	11/16	1 1/8	1 3/8	1 1/2
Diameter, Shank.....	3/8	7/16	1/2	9/16
PRICE.....	\$.29	\$.46	\$.57	\$.69

Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

DROP-FORGED THUMB NUTS

BLANK, OR TAPPED



Type A



Type B

These are drop-forged from a fine grade of steel that drills and taps readily; they are furnished either Blank or Tapped, tumbled smooth.

Nuts tapped U. S. Standard threads in stock. Whitworth Standard furnished at regular prices; **other threads to order**. Unless otherwise specified, orders for Tapped Nuts will be supplied with U. S. Standard threads.

Tapped Nuts have base faced at right angle to hole.

Special sizes and shapes and Tobin Bronze Nuts to order.

When tapping is ordered, a commercial product is furnished. If additional accuracy is required an extra charge, consistent with the special requirements, will be made.

When ordering indicate pattern (A or B) by letter.

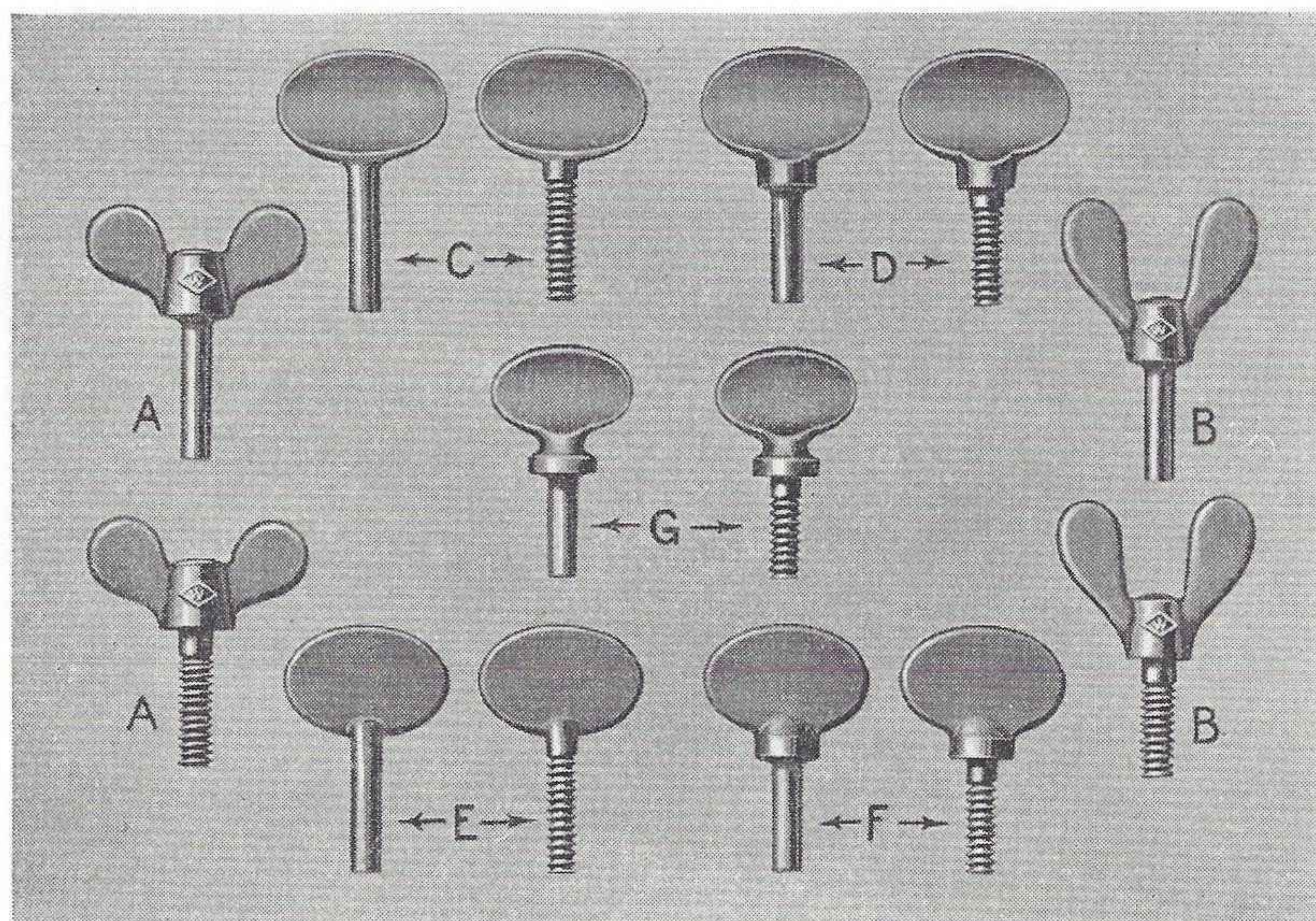
Blanks will be furnished, unless otherwise specified.

For Bolt; Size.....	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4
U. S. Std. (Natl. Coarse)— Threads Per Inch.....	32	24	20	18	16	14	13	12	11	10
Extreme Width across Wings										
Type A.....	3/4	15/16	1 1/8	1 7/16	1 11/16	2	2 1/4	2 9/16	2 3/4	3 1/4
Type B.....	25/32	1	1 3/16	1 3/8	1 5/8	1 7/8	2 1/16	2 3/8	2 9/16	3
Diameter, Top of Barrel.....	1/4	5/16	3/8	7/16	17/32	5/8	21/32	3/4	13/16	15/16
PRICE, per 100,										
Blank.....	\$ 3.50	4.00	4.50	5.20	6.50	8.00	10.00	12.00	14.50	21.00
Tapped U. S. Standard, unless otherwise specified }	\$ 9.00	10.00	11.00	13.00	16.00	20.00	25.00	30.00	34.00	46.00

Weights given pages 163 to 170.

DROP-FORGED THUMB SCREWS

All Types Furnished Either
 BLANK, OR THREADED



See List opposite page

Drop-forged from a fine grade of steel that threads readily and are tumbled smooth. Special sizes and shapes and Tobin Bronze Screws to order.

Type G is made in 1/4, 5/16 and 3/8 inch diameters in all regular lengths.

Dies for the following Screws have not yet been made, consequently these sizes are not now carried in stock; 7/16 inch diameter Type B, 9/16 inch diameter Types A, B, E and F, 5/8 inch diameter Types E and F, 3/4 inch diameter Types A, B, D, E and F.

Threaded Thumb Screws, except Types C and E, over 4 inches long have threads running up only 4 inches.

Lengths, longer than those listed, can be furnished specially from available dies; intermediate lengths take price of next longer length plus an extra charge for cutting. Electric Welding to order only.

Screws with U. S. Standard threads in stock. Whitworth Standard supplied at regular prices; **other threading to order.** Unless other threads are specified, Threaded Screws will be furnished with U. S. Standard threads.

Screws with special points can be supplied to order.

When ordering indicate pattern by letter.

Blanks will be furnished, unless otherwise specified.

When threading is ordered, a commercial product is furnished. If additional accuracy is required an extra charge, consistent with the special requirements, will be made.

DROP-FORGED THUMB SCREWS

BLANK, OR THREADED

See illustrations on opposite page

Blanks will be furnished, unless otherwise specified

Width of Head	Diameter Screw and U. S. Standard (Natl. Coarse) Threads per Inch										Width of Head
	1/8 32	3/16 24	1/4 20	5/16 18	3/8 16	7/16 14	1/2 13	9/16 12	5/8 11	3/4 10	
Type A	3/4	15/16	1 1/8	1 7/16	1 11/16	2	2 1/4	.....	2 3/4	.....	Type A
B	25/32	1	1 3/16	1 3/8	1 5/8	.....	2 1/16	.....	2 9/16	.....	B
C-D	19/32	27/32	1	1 3/16	1 3/8	1 9/16	1 3/4	1 7/8	2 1/16	*2 1/4	C-D
E-F	5/8	7/8	1 1/16	1 1/4	1 3/8	1 9/16	1 3/4	.....	.....	.....	E-F
G	.....	.....	31/32	1	1 1/4	.....	.....	.....	.....	.....	G

* Type C only; D not made.

BLANK, Price per 100

Length Under Head											Length Under Head
1/4	\$ 6.80	\$ 7.40	\$ 8.00	\$ 9.00	\$10.20	.....	.....	.....	.....	.....	1/4
1/2	7.10	7.70	8.30	9.30	10.50	\$12.00	\$14.00	\$18.00	.....	.....	1/2
3/4	7.40	8.00	8.60	9.60	10.80	12.40	14.40	18.50	.....	.....	3/4
1	7.70	8.30	8.90	9.90	11.10	12.80	14.80	19.10	\$24.50	\$40.00	1
1 1/4	8.00	8.60	9.20	10.20	11.40	13.20	15.30	19.80	25.50	41.00	1 1/4
1 1/2	8.30	8.90	9.50	10.60	11.80	13.70	15.80	20.60	26.60	42.10	1 1/2
1 3/4	.....	9.20	9.80	11.00	12.20	14.20	16.40	21.50	27.80	43.40	1 3/4
2	.....	9.60	10.20	11.40	12.60	14.70	17.00	22.50	29.10	44.90	2
2 1/4	.....	.....	10.60	11.80	13.00	15.30	17.70	23.60	30.50	46.40	2 1/4
2 1/2	.....	.....	11.00	12.20	13.40	15.90	18.40	24.80	32.00	48.40	2 1/2
2 3/4	.....	.....	11.40	12.60	13.90	16.50	19.20	26.10	33.60	50.40	2 3/4
3	.....	.....	11.80	13.00	14.40	17.20	20.20	27.50	35.30	52.70	3
3 1/2	.....	.....	.....	13.80	15.40	18.60	22.60	30.30	38.90	57.50	3 1/2
4	.....	.....	.....	14.60	16.60	20.40	25.60	34.00	44.00	63.60	4

THREADED, Price per 100

U. S. Standard Threads will be furnished, unless otherwise specified.

1/4	\$10.80	\$11.40	\$12.50	\$14.00	\$16.20	.....	.....	.....	.....	.....	1/4
1/2	11.30	11.90	13.00	14.50	16.70	\$19.20	\$22.60	\$29.50	.....	.....	1/2
3/4	11.80	12.40	13.50	15.00	17.20	19.90	23.30	30.30	.....	.....	3/4
1	12.40	13.00	14.10	15.60	17.80	20.70	24.10	31.30	\$40.10	\$62.00	1
1 1/4	13.00	13.60	14.70	16.20	18.40	21.60	25.10	32.60	41.70	63.60	1 1/4
1 1/2	13.70	14.30	15.40	17.00	19.20	22.70	26.20	34.00	43.40	65.40	1 1/2
1 3/4	.....	15.00	16.10	17.90	20.10	23.80	27.50	35.50	45.20	67.50	1 3/4
2	.....	15.90	17.00	18.80	21.00	24.90	28.80	37.30	47.30	69.90	2
2 1/4	.....	.....	17.90	19.70	22.00	26.10	30.20	39.20	49.60	72.40	2 1/4
2 1/2	.....	.....	18.80	20.60	23.00	27.30	31.60	41.20	52.00	75.60	2 1/2
2 3/4	.....	.....	19.70	21.60	24.10	28.50	33.10	43.30	54.50	79.00	2 3/4
3	.....	.....	20.60	22.60	25.20	29.80	34.80	45.50	57.20	82.70	3
3 1/2	.....	.....	.....	24.60	27.40	32.60	38.90	50.10	63.10	90.70	3 1/2
4	.....	.....	.....	26.70	30.00	36.00	44.10	56.00	71.00	100.40	4

Weights given pages 163 to 170.

DROP-FORGED ROD ENDS

UNFINISHED



These Rod or Stub Ends are drop-forged from mild steel which welds easily.

Dimensions show sizes of unfinished forgings.

Prices will be given for special forms on receipt of models or drawings and specifications stating quantity required.

(Continued on following page.)

No.	Shank		Head		PRICE		No.
	Diameter	Standard Length under Head	Diameter	Thickness	Extra Length per inch, or less	Standard Rod Ends	
0B	3/16	4 13/16	3/8	1/4	.....	\$ .17	0B
1B	1/4	2 11/16	9/16	1/2	.....	.16	1B
1C	1/4	* 5	5/8	1/4	\$.03	.18	1C
1D	1/4	* 2 3/8	7/16	1/4	.....	.12	1D
1-1/2A	9/32	* 5	11/16	9/32	.03	.28	1-1/2A
2A	5/16	* 3 3/4	3/4	7/16	.03	.19	2A
2B	5/16	3 1/8	3/4	5/16	.....	.09	2B
2C	5/16	5 3/4	3/4	3/8	.....	.17	2C
2D	5/16	1 1/4	13/16	3/8	.....	.10	2D
3A	3/8	* 2	1	3/8	.03	.10	3A
3B	3/8	* 3 3/8	21/32 ¹	3/4	.04	.36	3B
3C	3/8	* 3 1/2	13/16	3/8	.04	.10	3C
3D	3/8	* 3 1/2	9/16	9/16	.04	.19	3D
3E	3/8	3 1/8	5/8	5/8	.....	.18	3E
3F	3/8	1 1/8	3/4	3/8	.....	.08	3F
3G	3/8	1 7/16	5/8	3/8	.....	.09	3G
3H	3/8	1 5/8	3/4	3/8	.....	.10	3H
3J	3/8	3 1/16	7/8	3/8	.....	.14	3J
4B	7/16	* 4 1/2	15/16	5/8	.04	.19	4B
4C	7/16	* 3 3/8	13/16 ²	3/4	.04	.31	4C
4D	7/16	* 2 1/2	5/8	1/2	.04	.21	4D
4E	7/16	1 3/4	13/16	5/16	.....	.19	4E

*Can be furnished longer if desired.

†Head off-set from center of shank 3/64 inch.

‡Hole in head, 1 1/4 inch diameter.

1 Largest Diameter Head, 1 inch.

2 Largest Diameter Head, 1 1/8 inch.

3 Largest Diameter Head, 1 9/16 inch.

DROP-FORGED ROD ENDS

UNFINISHED

(Continued)

No.	Shank		Head		PRICE		No.
	Diameter	Standard Length under Head	Diameter	Thickness	Extra Length per inch, or less	Standard Rod Ends	
5A	1/2	*4 3/8	1	1/2	\$.06	\$.17	5A
†5B	1/2	2 3/8	3/4	3/4	.....	.21	†5B
5C	1/2	3 1/16	7/8	7/16	.....	.14	5C
5D	1/2	*2 7/8	3/4 ²	13/16	.06	.19	5D
*5E	1/2	*2 1/8	1 1/16	9/16	.06	.12	*5E
5F	1/2	2 1/16	13/16	11/32	.....	.14	5F
5G	1/2	*12	1	7/16	.06	.72	5G
6A	9/16	2	1 1/16	7/16	.....	.13	6A
6B	9/16	1	7/8	11/16	.....	.31	6B
6C	9/16	2 3/8	15/16	3/8	.....	.27	6C
6-1/2A	5/8	4 5/16	7/8	5/16	.....	.36	6-1/2A
7A	5/8	*2 3/8	1 1/8	15/32	.08	.16	7A
7B	5/8	*4 7/8	1 1/4	19/32	.08	.28	7B
7C	5/8	1 1/2	1 3/4	5/8	.....	.35	7C
7D	5/8	*7 1/2	1 5/32	21/32	.08	.52	7D
7E	5/8	*5 7/8	1 1/8 ³	1 1/16	.08	.44	7E
7F	5/8	*4 1/2	1 7/16	11/16	.08	.43	7F
7G	5/8	2 5/16	1	7/16	.....	.30	7G
7H	5/8	3	1 1/16	7/16	.....	.26	7H
9A	3/4	*3 7/8	1 3/4	5/8	.08	.46	9A
9B	3/4	*4	1 1/2	13/16	.08	.37	9B
9C	3/4	*4 3/8	1 1/8	3/4	.08	.37	9C
9D	3/4	3 7/8	1 1/8	1/2	.....	.24	9D
11A	7/8	*3 1/2	1 1/2	1 1/16	.10	.46	11A
11B	7/8	*4	2	15/16	.10	.64	11B
11C	7/8	4 3/4	1 7/16	5/8	.....	.37	11C
11D	7/8	4 3/4	1 1/8	1 5/32	.....	.55	11D
†13A	1	*6	2 15/16	1 1/4	.12	2.46	†13A
13B	1	*3 1/2	1 5/8	1 1/2	.12	.72	13B
13C	1	3 1/2	1 15/32	1 1/8	.....	.63	13C
14A	1 1/16	*5 3/4	2 1/16	1 1/8	.12	.60	14A
15A	1 1/8	*5	1 13/16	1 1/8	.14	.92	15A
15B	1 1/8	*6	2 1/4	1 1/4	.14	1.51	15B
17A	1 1/4	*6	2 5/16	1 1/2	.16	1.60	17A
19A	1 3/8	7 1/4	2 3/8	1 1/2	.....	1.72	19A

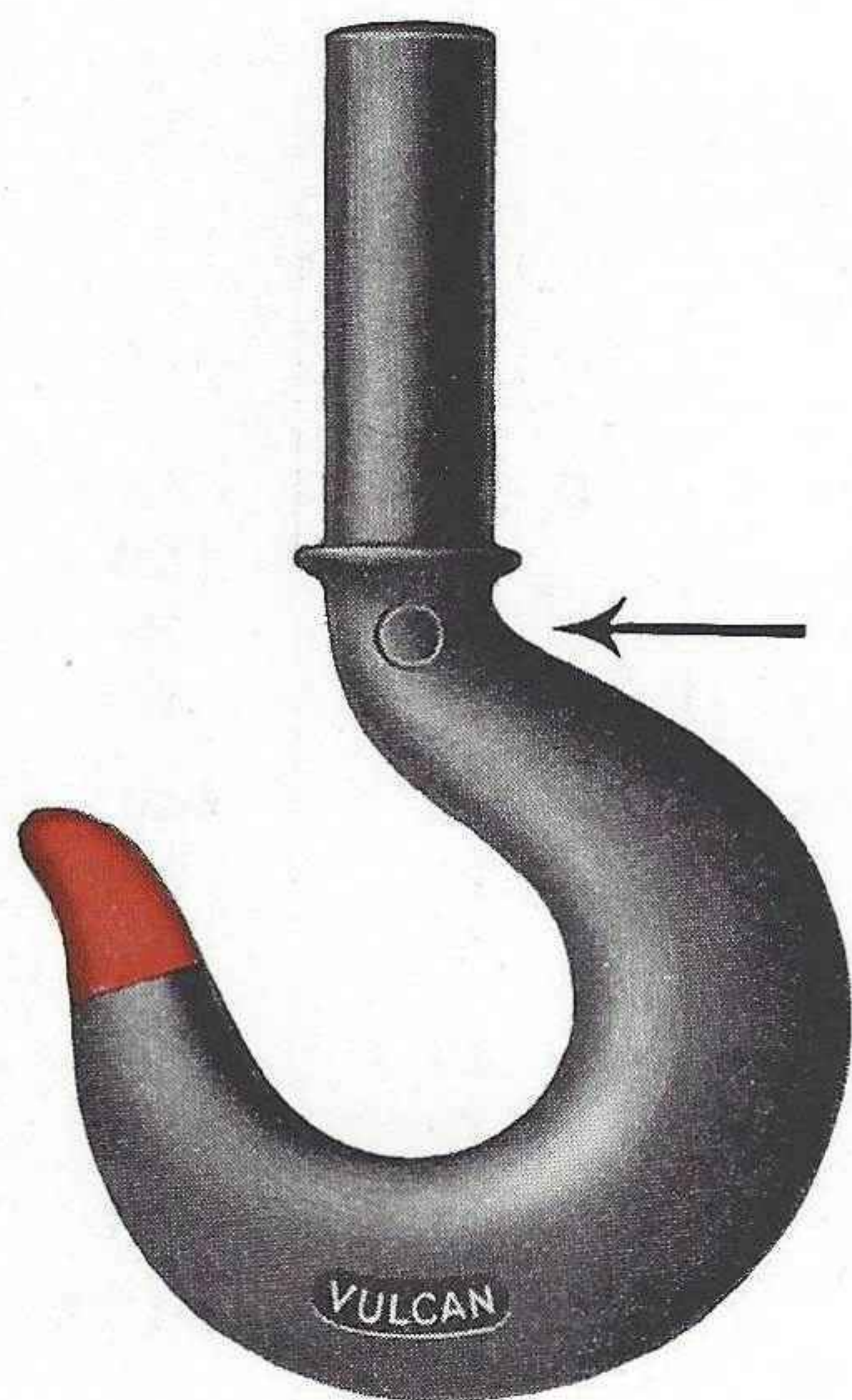
† * ³ See references on opposite page.

✦ "VULCAN"

DROP-FORGED HOIST HOOKS

The Hooks with the Orange Tip

SHANK PATTERN



All "Vulcan" Hooks are tipped with orange for ready identification by the user and to indicate the unusual and extreme care with which they are made.

Heat Treating. After forging, every "Vulcan" Hook is accurately heat-treated for maximum strength and toughness—the liability of breakage is reduced to the minimum.

Proof-Testing. To insure proper service at listed capacity every hook, after heat-treatment (*see next page*)

†Shanks of Nos. 13, 14, 15, 15A, 16 and 16A can be made longer if desired at an additional charge of \$.55, .80, 1.05, 1.30, 1.40 and 1.75 (list price) per extra inch or fraction thereof, respectively.

‡15A and 16A Hooks are made from special alloy steel; others from carbon steel.

No.	Shank		Opening, or Throat	Extreme Dimensions		Capacity, Tons of 2000 lbs.			PRICE	No.
	Diam., Nom- inal Size	Length		Length	Width	Safe Working Load	Average Load at Elastic Limit	Approx- imate Load Re- quired to Straight- en out		
2	1/2	2	1	5	2 7/8	.5	.9	1.9	\$.32	2
3	9/16	2 1/4	1 1/16	5 1/2	3 1/8	.6	1.2	2.3	.37	3
4	5/8	2 1/2	1 1/8	6	3 1/2	.7	1.5	3.	.44	4
5	3/4	2 3/4	1 1/4	6 3/4	3 7/8	1.2	2.5	5.7	.58	5
6	7/8	3	1 3/8	7 1/2	4 3/8	1.7	3.5	7.	.85	6
7	1	3 1/4	1 1/2	8 1/4	4 7/8	2.1	4.2	8.5	1.25	7
8	1 1/8	3 1/2	1 3/4	9 1/4	5 5/8	2.5	5.4	10.	1.80	8
9	1 1/4	3 3/4	1 7/8	10 1/4	6 3/8	3.	6.2	13.	2.45	9
10	1 3/8	4	2 1/16	11	6 7/8	4.	8.	17.	3.20	10
11	1 1/2	4 1/4	2 1/4	12	7 1/2	4.7	9.	19.	4.10	11
12	1 5/8	4 1/2	2 1/2	13	8 1/4	5.5	11.	26.	5.60	12
13	1 3/4	† 5	3	14 1/2	9 1/4	6.8	13.	32.	7.80	13
14	2	† 5 1/2	3 3/8	16	11	8.	17.	35.	12.00	14
15	2 3/8	† 6	4	17 7/8	13 1/2	11.	21.	48.	23.00	15
† 15A	2 3/8	† 6	4	17 7/8	13 1/2	15.	25.	55.	39.00	† 15A
16	2 3/4	† 7	4 1/2	21 1/2	15	20.	40.	80.	60.00	16
† 16A	2 3/4	† 7	4 1/2	21 1/2	15	25.	50.	.....	70.00	† 16A

Weights given pages 163 to 170.

✦ REGISTERED TRADE MARK

★ "VULCAN"

DROP-FORGED HOIST HOOKS

The Hooks with the Orange Tip

EYE PATTERN—WELDLESS

(Continued from preceding page)

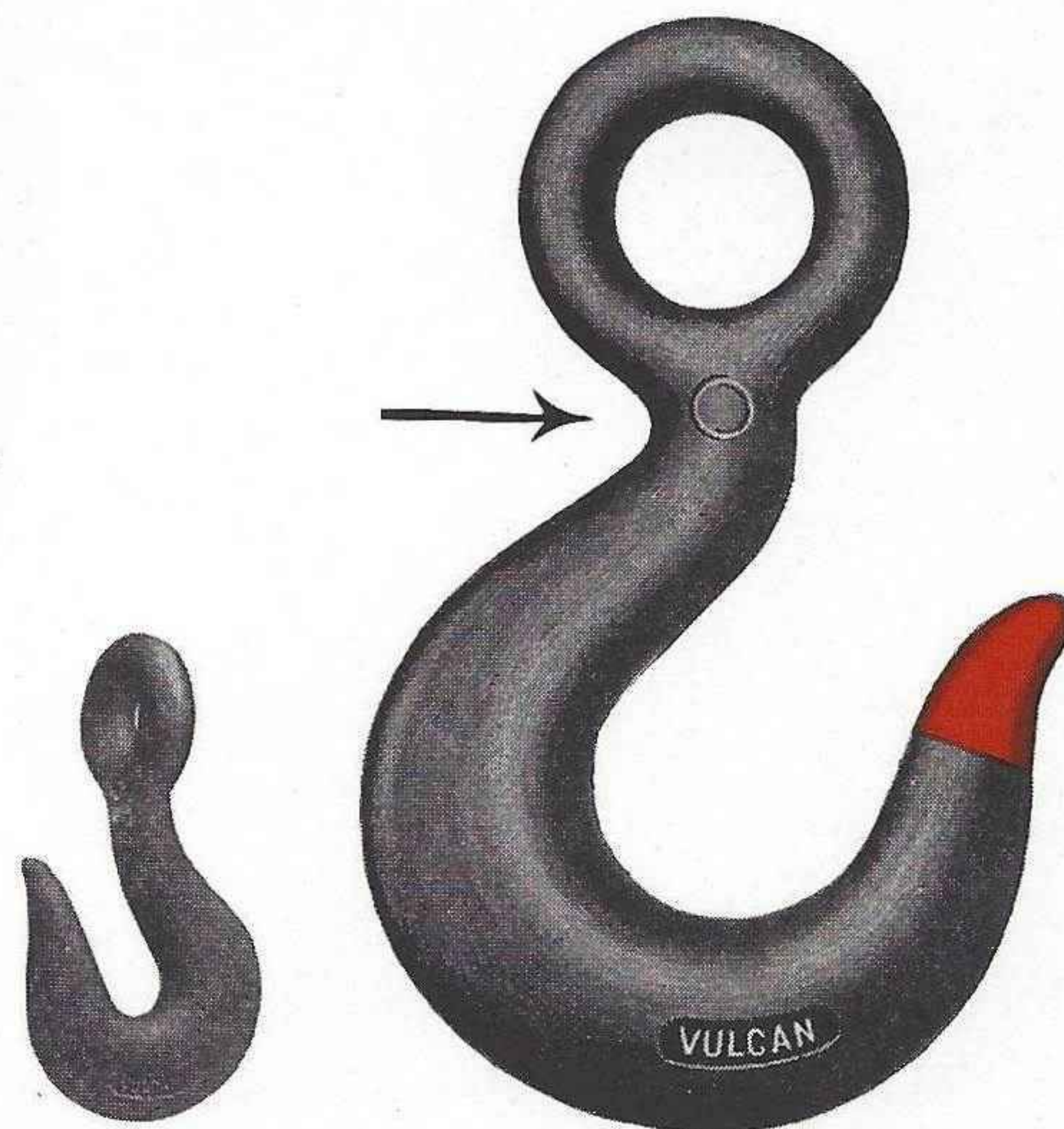
is proof-tested to *fifty per cent beyond* its rated "Safe Working Load." Each Hook so tested is stamped **O**, as illustrated, and hence can be readily identified as "proof-tested."

Use the Hook with the orange tip—no other standard line offers such assurance of safety and care in manufacture.

For Safety Chains on railroad cars, a Hook, approximately No. 27 in size and with eye at right angle, can be furnished to order in reasonable quantities; see small illustration. Full size drawing on request.

Tobin Bronze Hooks from standard or special dies to order in quantities; prices on application.

‡36A Hook is made from special alloy steel; others from carbon steel.



No.	Diameter of Eye		Opening, or Throat	Extreme Dimensions		Capacity, Tons of 2000 lbs.			PRICE	No.
	Inside	Outside		Length	Width	Safe Working Load	Average Load at Elastic Limit	Approximate Load Required to Straighten out		
22	3/4	1 1/2	1	4 3/8	2 7/8	.5	.9	1.9	\$.36	22
23	7/8	1 3/4	1 1/16	4 7/8	3 1/8	.6	1.2	2.3	.43	23
24	1	2	1 1/8	5 3/8	3 1/2	.7	1.5	3.	.53	24
25	1 1/8	2 1/4	1 1/4	6 3/16	3 7/8	1.2	2.5	5.7	.73	25
26	1 1/4	2 1/2	1 3/8	6 7/8	4 3/8	1.7	3.5	7.	1.05	26
27	1 3/8	2 3/4	1 1/2	7 5/8	4 7/8	2.1	4.2	8.5	1.50	27
28	1 1/2	3	1 3/4	8 9/16	5 5/8	2.5	5.4	10.	2.10	28
29	1 5/8	3 1/4	1 7/8	9 9/16	6 3/8	3.	6.2	13.	2.85	29
30	1 3/4	3 1/2	2 1/16	10 3/8	6 7/8	4.	8.	17.	3.70	30
31	2	4	2 1/4	11 1/2	7 1/2	4.7	9.	19.	4.70	31
32	2 3/8	4 5/8	2 1/2	13	8 1/4	5.5	11.	26.	6.40	32
33	2 3/4	5 1/4	3	14 3/4	9 1/4	6.8	13.	32.	9.40	33
34	3 1/8	6 1/8	3 3/8	16 3/4	11	8.	17.	35.	18.50	34
35	3 1/2	7	4	19 1/8	13 1/2	11.	21.	48.	35.00	35
36	4	8 1/2	4 1/2	22 3/4	15	20.	40.	80.	86.00	36
‡36A	4	8 1/2	4 1/2	22 3/4	15	25.	50.	.....	100.00	‡36A

Weights given pages 163 to 170.

★ REGISTERED TRADE MARK

✦ "VULCAN"
WIRE ROPE SOCKETS

CLOSED PATTERN—WELDLESS



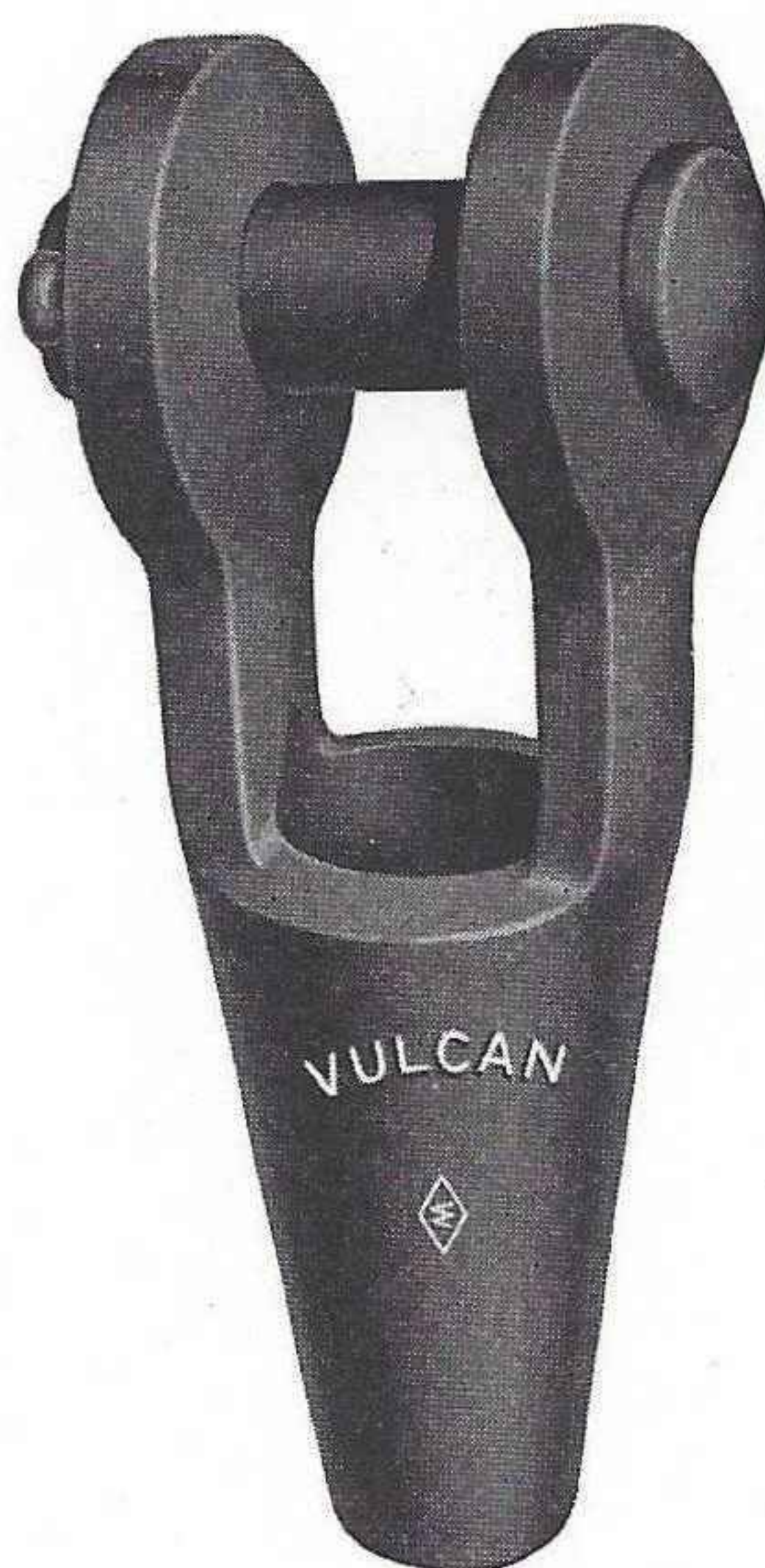
These are drop-forged from a fine grade of steel, making them superior in strength and finish to the heavier hand-made product. Numerous tests show their strength is greater than that of the strongest wire rope made.

No.	Size Rope	Extreme Length	Basket			PRICE	No.
			Length	Large Diameter Outside	Small Diameter Outside		
2	1/4	3 5/8	1 5/8	1 3/16	5/8	\$.70	2
3	5/16	3 5/8	1 5/8	1 3/16	5/8	.75	3
4	3/8	4 1/2	2	1 7/16	13/16	.85	4
5	7/16	4 1/2	2	1 7/16	13/16	.90	5
6	1/2	5 1/4	2 1/4	1 3/4	1	1.15	6
7	9/16	5 1/4	2 1/4	1 3/4	1	1.25	7
8	5/8	6 1/8	2 5/8	2	1 3/16	1.55	8
9	3/4	7	3	2 3/8	1 3/8	2.10	9
10	7/8	8	3 1/2	2 3/4	1 5/8	2.90	10
11	1	9 1/4	4	3 1/4	1 15/16	4.00	11
12	1 1/8	9 1/4	4	3 1/4	1 15/16	4.60	12
13	1 1/4	11 1/2	5	4	2 3/8	7.00	13
14	1 3/8	11 1/2	5	4	2 3/8	7.50	14
15	1 1/2	13	5 3/4	4 3/4	2 3/4	10.50	15
16	1 5/8	13	5 3/4	4 3/4	2 3/4	11.50	16

Weights given pages 163 to 170.

* REGISTERED TRADE MARK

♦“VULCAN”
 WIRE ROPE SOCKETS
 OPEN PATTERN



These are drop-forged from a fine grade of steel, making them superior in strength and finish to the heavier hand-made product. Numerous tests show their strength is greater than that of the strongest wire rope made.

The Pins are made of a superior grade of steel to obtain high shearing strength.
 Furnished regularly, complete with split-pin.

No.	Size Rope	Extreme Length	Basket			Diameter Pin	PRICE	No.
			Length	Large Diameter Outside	Small Diameter Outside			
102	1/4	3 7/16	1 5/8	1 3/16	5/8	1/2	\$1.00	102
103	5/16	3 7/16	1 5/8	1 3/16	5/8	1/2	1.05	103
104	3/8	4 3/8	2	1 7/16	13/16	5/8	1.40	104
105	7/16	4 3/8	2	1 7/16	13/16	5/8	1.45	105
106	1/2	5 1/8	2 1/4	1 3/4	1	3/4	1.85	106
107	9/16	5 1/8	2 1/4	1 3/4	1	3/4	1.95	107
108	5/8	6	2 5/8	2	1 3/16	7/8	2.40	108
109	3/4	6 7/8	3	2 3/8	1 3/8	1	3.10	109
110	7/8	7 7/8	3 1/2	2 3/4	1 5/8	1 1/4	3.90	110
111	1	9 1/8	4	3 1/4	1 15/16	1 1/2	5.25	111
112	1 1/8	9 1/8	4	3 1/4	1 15/16	1 1/2	5.75	112
113	1 1/4	11 3/8	5	4	2 3/8	1 7/8	9.25	113
114	1 3/8	11 3/8	5	4	2 3/8	1 7/8	9.75	114
115	1 1/2	13	5 3/4	4 3/4	2 3/4	2 1/4	13.00	115
116	1 5/8	13	5 3/4	4 3/4	2 3/4	2 1/4	14.50	116

Weights given pages 163 to 170.

♦REGISTERED TRADE MARK

✦ "VULCAN"

WELDLESS EYE BOLTS

PLAIN PATTERN

Blank or Threaded



These carbon steel Eye Bolts are specially heat-treated, after forging, to increase further their strength and toughness and reduce the liability of breakage.

To insure proper service at listed capacity, every Eye Bolt, after heat-treatment, is proof tested before threading to *fifty per cent beyond* its "Safe Working Load."

Each Eye Bolt so tested is stamped **○** near its piece number, which appears in raised letters on the forging, and hence can be readily identified as "*proof-tested*".

U. S. Std. Threaded Eye Bolts of Standard length are in stock; threaded prices are for these with either U. S. or Whitworth Std. Threads; longer lengths and special threads extra.

Tobin Bronze Eye Bolts for marine work from standard or special dies to order in quantities; prices on request.

Eye Bolts can be galvanized to order at extra cost. Prices given for special Eye Bolts on receipt of drawings, or models and specifications.

(Continued on following page)

When ordering, please state whether Blank or Threaded are desired; Blank (shank not threaded) will be supplied, unless otherwise specified.

No.	Shank			Diameter Eye		Capacity Blanks; Tons of 2000 lbs.		PRICE, Each					No.		
	Nomi- nal Diam.; Blank	Std. Length under Eye, Blank and Thd.	Max- imum Length in Stock; Blank	Inside	Outside	Safe Work- ing Load	Break- ing Strain, Apprx.	Blank			Threaded				
								Stand- ard Lgth. (A)	Extra for Lgth. up to Max. (B)	Extra per *Inch over Max. (C)	Stand- ard Lgth. (D)	Extra per *Inch for Thd. only (D)			
3	3/8	1 1/4	4 1/2	1	1 21/32	.7	3.	\$.11	\$.11	\$.06	\$.16	\$.05	3		
4	7/16	1 3/8	4 1/2	1	1 27/32	1.	4.	.12	.12	.06	.18	.05	4		
5	1/2	1 1/2	4 1/2	1	1 3/16	1.3	5.	.14	.14	.06	.21	.05	5		
6	9/16	1 5/8	4 1/2	1	1 9/32	1.5	6.	.17	.17	.08	.25	.05	6		
7	5/8	1 3/4	4 1/2	1	1 3/8	2.	8.	.22	.22	.10	.32	.06	7		
8	3/4	2	5	1	1 1/2	3.	12.	.30	.24	.12	.42	.06	8		
9	7/8	2 1/4	5	1	1 11/16	3.5	16.	.40	.26	.14	.55	.06	9		
10	1	2 1/2	5	1	1 13/16	4.	20.	.55	.30	.17	.74	.07	10		
11	1 1/8	2 3/4	5	2	4	5.	23.	.80	.35	.20	1.04	.08	11		
12	1 1/4	3	6	2	3 1/16	4	7 1/16	7.5	33.	1.15	.50	.23	1.45	.10	12
14	1 1/2	3 1/2	6	2	1 1/2	5	3 1/16	9.	42.	2.00	.65	.33	2.50	.14	14
15	1 3/4	3 3/4	6	2	7/8	6	1 1/16	11.	53.	3.00	.80	.48	3.75	.20	15
16	2	4	6	3	1 1/4	6	7/8	13.	68.	4.25	1.00	.65	5.30	.27	16
17	2 1/2	5	6	4	8 9/16	16.	85.	7.00	.75	1.00	8.80	.36	17		

Weights given pages 163 to 170.

*Extra per inch, or fraction thereof.

✦ REGISTERED TRADE MARK

★ “VULCAN”

WELDLESS EYE BOLTS

SHOULDER PATTERN

Blank or Threaded

(Continued)

On Threaded Eye Bolts of Shoulder Pattern the thread runs within 1/8 to 3/8 inch of shoulder, which is faced.

Prices for either Plain, or Shoulder Eye Bolts of “Extra Lengths” apply only to forgings which may be in stock at time ordered.

To determine *List Price* for *Threaded* Eye Bolts of other than standard length:—

1. Determine price of Blank (see A, B and C in table).
2. Add for threading (see D).
3. If quantity is less than 100 of same pattern and shank diameter, shorter or longer than standard, add \$2.00 NET for the lot to cover “set-up” charge.
4. Shorter lengths than standard take Standard Threaded List, plus “set-up” charge, if any.

Example:—50 No. 28—8" long, Threaded 3"

Blank—Std. Length 2"...(A).....\$.30

Extra to Max. 5".....(B)..... .24

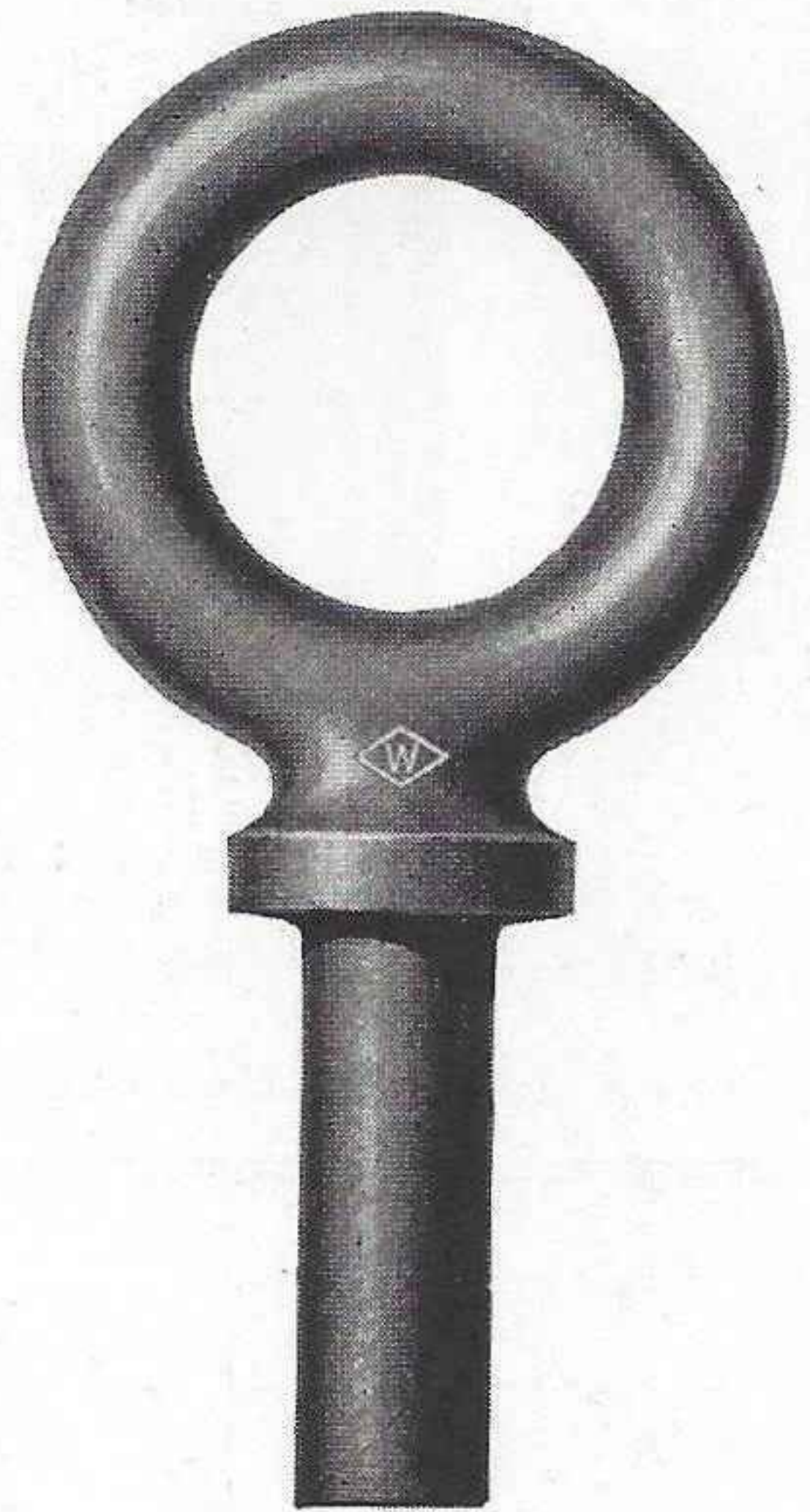
Additional 3" @ 12c....(C)..... .36

Threading—3" @ 6c....(D)..... .18

LIST PRICE, Each.....\$1.08

“Set-Up” NET charge, \$2.00 extra for the lot

When ordering, please state whether Blank, or Threaded are desired; Blank (shank not threaded) will be supplied, unless otherwise specified.



No.	Shank			Eye, Diameter		Capacity Blanks; Tons of 2000 lbs.		PRICE, Each					No.
	Nomi- nal Diam.; Blank	Std. Lgth. under Shldr. Blank and Thd.	Max- imum Lgth. in Stock; Blank	Inside	Outside	Safe Work- ing Load	Break- ing Strain, Apprx.	Blank			Threaded		
								Stand- ard Lgth. (A)	Extra for Lgth. up to Max. (B)	Extra per *Inch over Max. (C)	Stand- ard Lgth.	Extra per *Inch for Thd. only (D)	
21	1/4	1	3	3/4	1 3/16	.2	1.5	\$.09	\$.09	\$.06	\$.14	\$.05	21
22	5/16	1 1/8	4	7/8	1 7/16	.4	2.	.10	.10	.06	.15	.05	22
23	3/8	1 1/4	4 1/2	1	1 21/32	.7	3.	.11	.11	.06	.16	.05	23
24	7/16	1 3/8	4 1/2	1 3/32	1 27/32	1.	4.	.12	.12	.06	.18	.05	24
25	1/2	1 1/2	4 1/2	1 3/16	2 1/16	1.3	5.	.14	.14	.06	.21	.05	25
26	9/16	1 5/8	4 1/2	1 9/32	2 9/32	1.5	6.	.17	.17	.08	.25	.05	26
27	5/8	1 3/4	4 1/2	1 3/8	2 1/2	2.	8.	.22	.22	.10	.32	.06	27
28	3/4	2	5	1 1/2	2 13/16	3.	12.	.30	.24	.12	.42	.06	28
29	7/8	2 1/4	5	1 11/16	3 1/4	3.5	16.	.40	.26	.14	.55	.06	29
30	1	2 1/2	5	1 13/16	3 9/16	4.	20.	.55	.30	.17	.74	.07	30
31	1 1/8	2 3/4	5	2	4	5.	23.	.80	.35	.20	1.04	.08	31
32	1 1/4	3	6	2 3/16	4 7/16	7.5	33.	1.15	.50	.23	1.45	.10	32
34	1 1/2	3 1/2	6	2 1/2	5 3/16	9.	42.	2.00	.65	.33	2.50	.14	34
35	1 3/4	3 3/4	6	2 7/8	6 1/16	11.	53.	3.00	.80	.48	3.75	.20	35
36	2	4	6	3 1/4	6 7/8	13.	68.	4.25	1.00	.65	5.30	.27	36

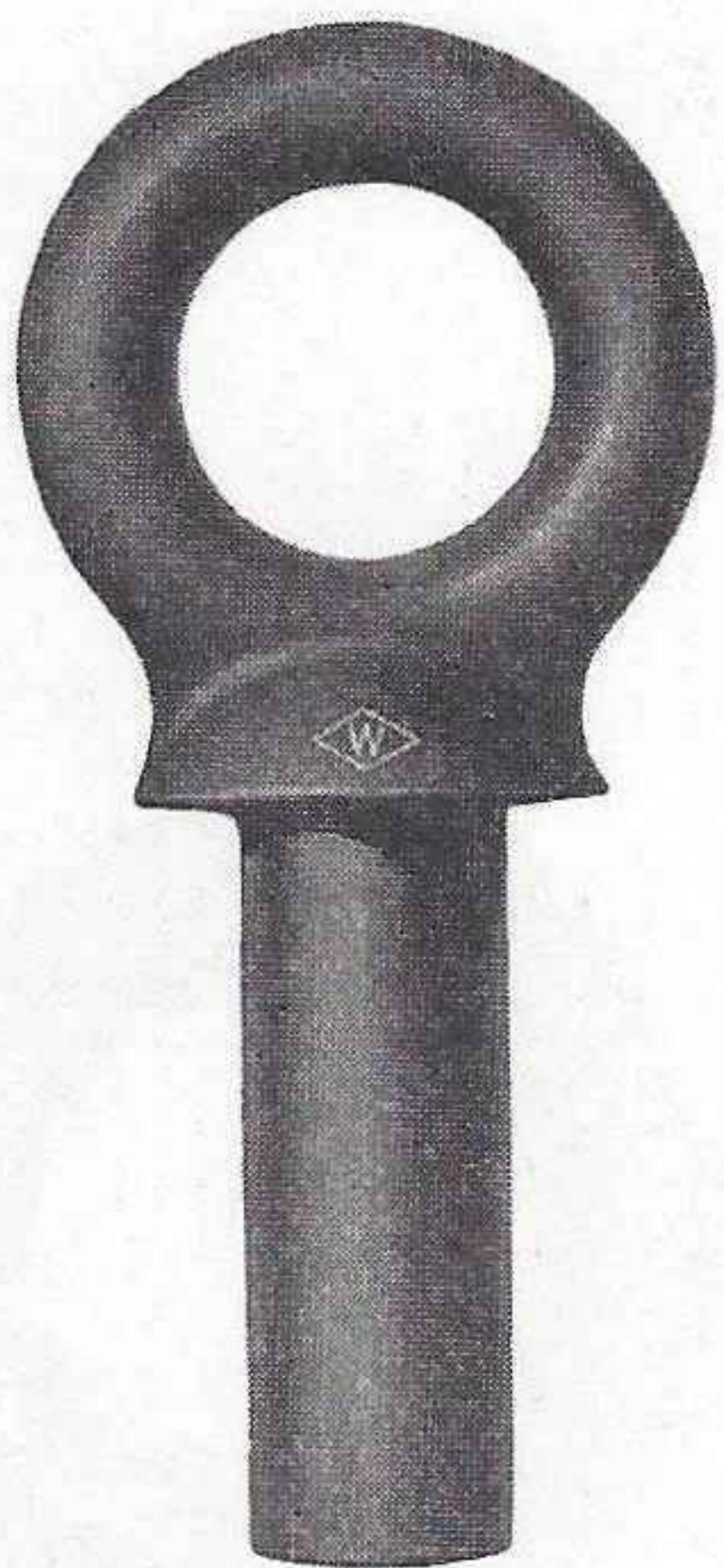
Weights given pages 163 to 170.

* Extra per inch, or fraction thereof.

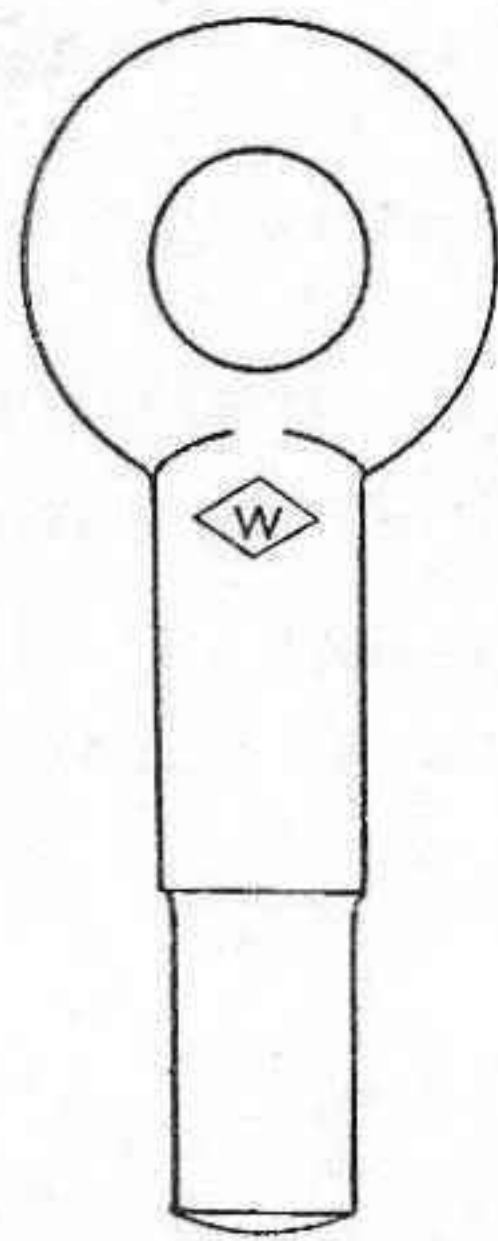
★ REGISTERED TRADE MARK

MISCELLANEOUS EYE BOLTS

CARBON STEEL—WELDLESS



Type A



B 17, 25, 30, 35



Type B

These are furnished in two styles or types, A and B, and are carried in stock with shanks blank (not threaded), but will be supplied threaded to order at slight extra charge.

Full size drawings will be sent on request.

Type	No.	Shank		Diameter Eye		PRICE, Blank	No.	Type
		Diameter	Length	Inside	Outside			
A	1	1/4	*3/4	3/8	3/4	\$.07	1	A
	10	3/8	3	3/4	1 3/8	.12	10	
	12	3/8	3	3/8	1	.12	12	
A	11	7/16	2 3/16	1 7/32	2 7/32	.30	11	A
	13	7/16	2 3/4	5/8	1 3/8	.14	13	
	14	15/32	1 5/8	1/2	1 1/4	.11	14	
A	15	1/2	2	9/16	1 1/4	.11	15	A
	16	1/2	3/4	1 3/8	2 3/8	.26	16	
	17	1/2	4	1	1 3/4	.17	17	
A	20	9/16	2	5/8	1 1/2	.14	20	A
	25	5/8	1 3/4	7/8	1 5/8	.14	25	
	26	5/8	*1 3/4	1 1/8	2	.20	26	
A	40	13/16	3 1/4	3/4	2 1/8	.35	40	A
	55	1	1 5/16	7/8	2 3/8	.35	55	
	58	1 1/16	4 1/8	1 1/8	2 7/8	.65	58	
B	1	1/4	1/2	3/8	3/4	.05	1	B
	4	5/16	3	5/16	15/16	.12	4	
	5	3/8	6	1/2	1 1/8	.25	5	
B	10	7/16	1 1/8	1	1 3/4	.11	10	
	15	1/2	*1 1/2	13/16	1 13/16	.14	15	B
	16	1/2	3 1/4	7/16	1 7/16	.15	16	
B	17	†1/2	1 3/4	1/2	1 1/8	.10	17	
	25	†5/8	2 3/8	1/2	1 1/4	.12	25	B
	26	5/8	2 3/4	11/16	1 11/16	.15	26	
B	27	5/8	3/4	1 1/2	2 1/2	.26	27	
	30	†11/16	2 1/2	9/16	1 7/16	.14	30	B
	35	†3/4	2 3/4	5/8	1 5/8	.16	35	
B	45	7/8	4 1/8	1 1/8	2 3/8	.35	45	
	50	15/16	*5	1 1/8	2 3/8	.55	50	
	55	1	2 3/4	3/4	2	.30	55	





†Shanks of B 17, 25, 30 and 35 are 7/16, 1/2, 9/16 and 5/8 inch in diameter for 3/4, 1, 1 and 1 1/8 inch from end respectively, as illustrated above.

*Can be furnished longer if desired, at extra charge. Maximum length in stock:—
Nos. A-1, 3"; A-26 and B-15, 4 1/2"; No. B-50, 5".

♦ "SUPERIOR"
DROP-FORGED WRENCHES
 (Carbon Steel)

For
WHITWORTH STANDARD AND METRIC MEASURE
 NUMERICALLY ARRANGED

*Furnished from stock until supply is exhausted; thereafter on special order only.



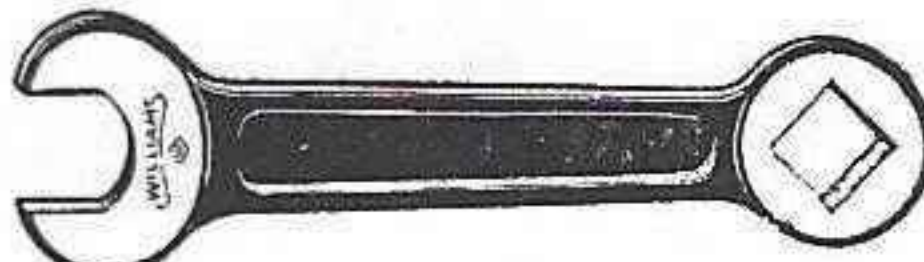


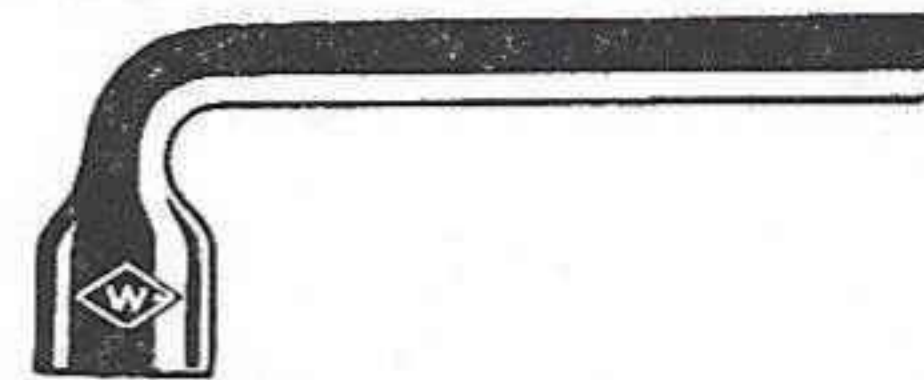
No.	Whitworth Std. Nuts; Size Bolts	Metric Open- ings; m/m	No.	Whitworth Std. Nuts; Size Bolts	Metric Open- ings; m/m	No.	Whitworth Std. Nuts; Size Bolts	Metric Open- ings; m/m
See Pages 14 & 15			See Page 15 Contd.			See Pages 16 & 17		
MS000	.....	5	M 9T	.....	38	W27	5/16 & 3/8	
MS000T	.....	6	W 9	7/8		M28	.....	16 & 18
M00T	.....	7	M10	.....	40	M28T	.....	17 & 19
M00	.....	8	*M10V	.....	41	W28	5/16 & 7/16	
W00	1/8		M10T	.....	42	M29T	.....	18 & 19
M0T	.....	9	W10	1		M29	.....	18 & 20
M0	.....	10	M11	.....	45	W29	3/8 & 7/16	
W0	3/16		W11	1 1/8		M30	.....	19 & 21
M1T	.....	11	M12	.....	50	W30	3/8 & 1/2	
M1	.....	12	W12	1 1/4		M31	.....	20 & 22
W1	1/4		W13	1 3/8		M31T	.....	21 & 23
M2T	.....	13	W14	1 1/2		W31	7/16 & 1/2	
M2	.....	14	*W15	1 5/8		M32T	.....	22 & 24
M2U	.....	15	*W16	1 3/4		M32	.....	22 & 25
W2	5/16		*W16A	1 7/8		M32U	.....	23 & 25
M3	.....	16	*W17	2		W32	7/16 & 9/16	
M3U	.....	17	*W18	2 1/4		W33	1/2 & 9/16	
M3T	.....	18	*W19	2 1/2		M34	.....	23 & 27
W3	3/8		*W20	3		M34T	.....	24 & 26
M4T	.....	19				M34U	.....	25 & 27
M4	.....	20	See Page 16			W34	1/2 & 5/8	
W4	7/16					M35	.....	25 & 28
M5T	.....	21	M21	.....	6 & 8	M34V	.....	26 & 28
M5	.....	22	M21T	.....	7 & 9	M35T	.....	26 & 29
W5	1/2		M21U	.....	8 & 10	W35	9/16 & 5/8	
M6T	.....	23	W21	1/8 & 3/16		M36T	.....	27 & 29
M6U	.....	24	M22	.....	9 & 11	M36	.....	28 & 30
M6	.....	25	W22	1/8 & 1/4		M36U	.....	29 & 32
W6	9/16		M23	.....	10 & 12	W36	9/16 & 3/4	
M7T	.....	26	M23T	.....	11 & 13	M37	.....	30 & 32
M7U	.....	27	W23	3/16 & 1/4		W37	5/8 & 3/4	
M7	.....	28	W24	3/16 & 5/16		W38	5/8 & 7/8	
W7	5/8		M25T	.....	12 & 13	M39	.....	32 & 35
M8U	.....	29	M25	.....	12 & 14	W39	3/4 & 7/8	
M8	.....	30	M25U	.....	13 & 15	M40	.....	33 & 39
M8T	.....	32	W25	1/4 & 5/16		W40	3/4 & 1	
*M8X	.....	33	W26	1/4 & 3/8		M41	.....	38 & 40
W8	3/4		M27	.....	14 & 16	M41T	.....	38 & 42
M9U	.....	34	M27T	.....	15 & 16	W41	7/8 & 1	
M9	.....	35	M27U	.....	15 & 17	W42	7/8 & 1 1/8	
M9V	.....	36				M43	.....	42 & 45

♦ REGISTERED TRADE MARK

★ “SUPERIOR”
DROP-FORGED WRENCHES
 (Carbon Steel)

For
WHITWORTH STANDARD AND METRIC MEASURE
 NUMERICALLY ARRANGED

*Furnished from stock until supply is exhausted; thereafter on special order only.

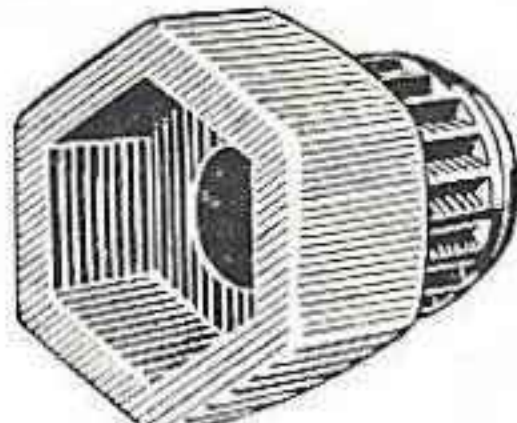





No.	Whitworth Std. Nuts; Size Bolts	Metric Open- ings; m/m	No.	Whitworth Std. Nuts; Size Bolts	Metric Open- ings; m/m	No.	Whitworth Std. Nuts; Size Bolts	Metric Open- ings m/m
See Page 17 Contd.			See Page 32			See Page 31		
W43	1 & 1 1/8	46 & 50	W201	1/4		W563C W563D W564	Open End; Bolt	Closed End; Open'g
M44	.....		W202	5/16				
W44	1 & 1 1/4	W203	3/8				1/2—9/16	
W45	1 1/8 & 1 1/4	W204	7/16			1/2—5/8		
* W46	1 1/8 & 1 3/8	W205	1/2			5/8—5/8		
M47	.....	W207	5/8	See Page 18				
* W47	1 1/4 & 1 3/8	W208	3/4					
* W48	1 1/4 & 1 1/2	W209	7/8					
* W49	1 3/8 & 1 1/2	W210	1	M601		.....	12	
* W51	1 1/2 & 1 5/8	W211	1 1/8	M601T		.....	13	
* W52	1 1/2 & 1 3/4	* W212	1 1/4	W601		1/4		
* W53	1 5/8 & 1 3/4				M602	.....	14	
* W55	1 3/4 & 2				M602T	.....	15	
* W56	1 3/4 & 2 1/4				* M602U	.....	16	
* W57	2 & 2 1/4				W602	5/16		
See Page 26			See Page 40					
M75	.....	10 & 12	* W261A	1/8		* M603	.....	17
W75	3/16 & 1/4	13 & 16	* W263A	3/16		* M603T	.....	18
* M77	.....		W264A	1/4		* M603U	.....	19
* W77A	3/16 & 5/16	14 & 16 15 & 18 16 & 19	W265A	5/16		W603	3/8	
W77D	1/4 & 5/16		W267A	3/8		* M604	.....	20
M79	.....		W268A	7/16		* M604T	.....	21
* M79T	.....		W269A	1/2		W604	7/16	
* M79U	.....		W270A	9/16		* M605	.....	22
* W79F	1/4 & 3/8		W271A	5/8		* M605T	.....	23
W79D	5/16 & 3/8		W273A	3/4		W605	1/2	
* W79G	5/16 & 7/16		W275A	7/8		* W606	9/16	
M81	.....		W276A	1		W607	5/8	
* M81T	.....		* W277A	1 1/8		W608	3/4	
* M81U	.....	21 & 23 22 & 25	* W278A	1 1/4		W609	7/8	
W81F	3/8 & 7/16		* W279A	1 3/8		W610	1	
W81G	3/8 & 1/2		* W280A	1 1/2				
* M83T	.....						
M83	.....						
W83E	7/16 & 1/2							
* W83F	7/16 & 9/16							
* W83G	1/2 & 9/16							
W83C	1/2 & 5/8							
M85	.....						
* W85D	9/16 & 5/8	28 & 30						
* W85E	9/16 & 3/4							
W85C	5/8 & 3/4							

★ REGISTERED TRADE MARK

♦ "SUPERIOR"
DROP-FORGED WRENCHES
(Carbon Steel)

For
WHITWORTH STANDARD AND METRIC MEASURE
NUMERICALLY ARRANGED

*Furnished from stock until supply is exhausted; thereafter on special order only.

No.	Whitworth Std. Nuts; Size Bolts	Metric Open- ings; m/m	No.	Whitworth Std. Nuts; Size Bolts	Metric Open- ings; m/m	No.	Whitworth Std. Nuts; Size Bolts	Metric Open- ings; m/m	
See Page 69			See Page 19 Contd.			See Page 27			
WE1-617	5/8		M634	.....	23 & 27	W760A	1/8 & 1/4	
WE1-620	3/4		M634T	.....	24 & 26	W760B	3/16 & 1/4	
WE1-623	7/8		W634	1/2 & 5/8		W760C	3/16 & 5/16		
WE1-626	1		M635T	.....	26 & 29	W761A	1/4 & 5/16	
WE1-629	1 1/8		M635	.....	28 & 30	W761B	1/4 & 3/8	
WE1-632	1 1/4		W635	9/16 & 5/8		W761C	5/16 & 3/8		
WE1-635	1 3/8		*W636	9/16 & 3/4		W762A	5/16 & 7/16		
			W637	5/8 & 3/4		W762B	3/8 & 7/16		
			W639	3/4 & 7/8		W762C	3/8 & 1/2		
See Page 19			See Pages 24 & 25				W763A	7/16 & 1/2	
M623	.....	10 & 12	*W661B	1/8 & 1/4		*W763B	7/16 & 9/16	
M623T	.....	12 & 14	W661C	3/16 & 1/4		W763C	1/2 & 9/16	
M623U	.....	13 & 15	*W662A	3/16 & 5/16		W764A	1/2 & 5/8	
W623	3/16 & 1/4		*W662B	1/4 & 5/16		W764B	9/16 & 5/8		
W624	3/16 & 5/16		*W662C	1/4 & 3/8		W764C	9/16 & 3/4		
W625	1/4 & 5/16		W663A	5/16 & 3/8		W765A	5/8 & 3/4		
M626	.....	14 & 16	W663B	5/16 & 7/16		W765B	5/8 & 7/8	
M626T	.....	16 & 18	W663C	3/8 & 7/16		W765C	3/4 & 7/8	
W626	1/4 & 3/8		W664A	3/8 & 1/2					
W627	5/16 & 3/8		W664B	7/16 & 1/2		See Page 20			
W628	5/16 & 7/16		W664C	7/16 & 9/16					
M629	.....	18 & 20	*W665A	1/2 & 9/16		*W801	1/4	
W629	3/8 & 7/16		W665B	1/2 & 5/8		W802	5/16		
M628T	.....	19 & 21	W665C	9/16 & 5/8		W803	3/8	
M630	.....	20 & 22	*W666A	9/16 & 3/4		W804	7/16	
M630T	.....	21 & 23	W666B	5/8 & 3/4		W805	1/2	
M630U	.....	22 & 25	*W666C	5/8 & 7/8		W806	9/16	
W630	3/8 & 1/2		W667A	3/4 & 7/8		W807	5/8		
W631	7/16 & 1/2		*W667B	3/4 & 1		W808	3/4		
W632	7/16 & 9/16		*W667C	7/8 & 1		W809	7/8		
*W633	1/2 & 9/16		*W668A	7/8 & 1 1/8		W810	1		

♦ REGISTERED TRADE MARK



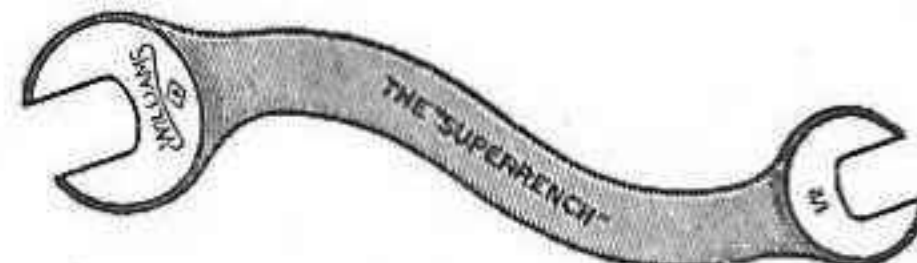
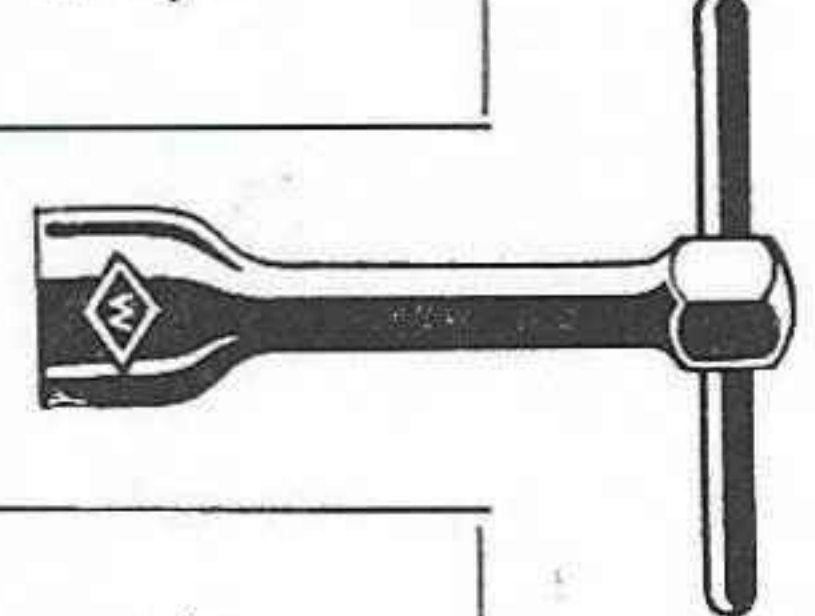

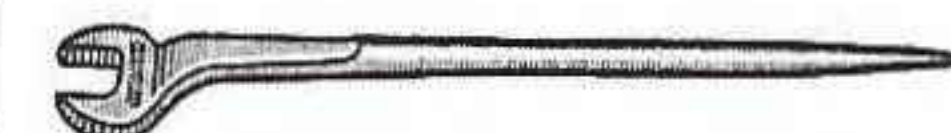
♦ “SUPERIOR” AND “SUPERRENCH” ♦
 (Carbon Steel) (Chrome-Moly.)

DROP-FORGED WRENCHES

For

WHITWORTH STANDARD AND METRIC MEASURE
 NUMERICALLY ARRANGED

*Furnished from stock until supply is exhausted; thereafter on special order only.

No.	Whitworth Std. Nuts; Size Bolts	Metric Open- ings; m/m	No.	Whitworth Std. Nuts; Size Bolts	Metric Open- ings; m/m	No.	Whitworth Std. Nuts; Size Bolts	Metric Open- ings; m/m
See Page 33			See Pages 52 & 53			See Page 55		
W901	1/4		M1021	.....	6 & 8	W1075	3/16 & 1/4	
*W902	5/16		W1021	1/8 & 3/16		*W1077A	3/16 & 5/16	
W903	3/8		W1022	1/8 & 1/4		*W1077D	1/4 & 5/16	
*W904	7/16		*M1021T	.....	8 & 10	*W1079F	1/4 & 3/8	
W905	1/2		M1023	.....	10 & 12	*W1079D	5/16 & 3/8	
W906	9/16		W1023	3/16 & 1/4		*W1079G	5/16 & 7/16	
W907	5/8		*W1024	3/16 & 5/16		*W1081F	3/8 & 7/16	
W908	3/4		*M1025T	.....	12 & 13	W1081G	3/8 & 1/2	
W909	7/8		M1025	.....	12 & 14	*W1083E	7/16 & 1/2	
W910	1		W1025	1/4 & 5/16		*W1083F	7/16 & 9/16	
*W910A	1 1/8		*W1026	1/4 & 3/8		*W1083G	1/2 & 9/16	
*W911	1 1/8		M1027	.....	14 & 16	*W1083C	1/2 & 5/8	
W912	1 1/4		*M1027T	.....	15 & 16	*W1085D	9/16 & 5/8	
			W1027	5/16 & 3/8		*W1085E	9/16 & 3/4	
			M1028	.....	16 & 18	*W1085C	5/8 & 3/4	
			W1028	5/16 & 7/16				
See Page 38			*M1029T	.....	18 & 19	See Page 56		
*W961A	1/8		M1029	.....	18 & 20			
W963A	3/16		W1029	3/8 & 7/16		*W1203	3/8	
W964A	1/4		W1030	3/8 & 1/2		*W1205	1/2	
W965A	5/16		M1031	.....	20 & 22	*W1207	5/8	
W967A	3/8		*M1031T	.....	21 & 23	*W1208	3/4	
W968A	7/16		W1031	7/16 & 1/2		*W1209	7/8	
W969A	1/2		M1032	.....	22 & 25	*W1210	1	
*W970A	9/16		*W1032	7/16 & 9/16				
W971A	5/8		M1033	.....	24 & 26	See Page 57		
W973A	3/4		W1033	1/2 & 9/16				
W975A	7/8		*M1034	.....	23 & 27	*W1903	3/8	
W976A	1		W1034	1/2 & 5/8		*W1905	1/2	
*W977A	1 1/8		M1035	.....	25 & 28	*W1907	5/8	
*W978A	1 1/4		*W1035	9/16 & 5/8		*W1908	3/4	
*W979A	1 3/8		*M1036	.....	28 & 30	*W1909	7/8	
*W980A	1 1/2		*W1036	9/16 & 3/4		*W1910	1	
			*M1037	.....	30 & 32			
			W1037	5/8 & 3/4				

♦ REGISTERED TRADE MARKS

WEIGHTS OF STANDARD DROP-FORGED WRENCHES

ARRANGED IN PAGE ORDER

Following table indicates approximately the weights of products listed

Wrenches	Weight Each, lbs.	Wrenches	Weight Each, lbs.	Wrenches	Weight Each, lbs.	Wrenches	Weight Each, lbs.
Pages 14 & 15		Pages 16 & 17		Pages 16 & 17 Contd.		Page 19 Contd.	
No.		No.		No.	Lbs.	No.	Lbs.
S000	.03	721	.08	45	7.7	632	.57
S 00	.05	722	.11	46	9.5	633	.56
00	.07	723	.11	47	9.5	634	.54
0	.09	723A	.15	48	13.	635	1.1
1	.13	724	.18	49	12.7	636	1.0
2	.22	725	.18	50	13.2	637	1.0
3	.32	725B	.23	51	14.7	638	2.1
4	.44	726	.30	52	16.7	639	1.9
5	.65	727	.30	53	18.	640	1.8
6	.86	728	.40	54	24.		
7	1.4	729	.40	55	24.	Pages 20 & 21	
8	2.2	730	.61	56	31.		
9	2.7	731	.76	57	34.		
10	3.7	732	1.0	57A	38.7	No.	
11	4.5	733	1.0	58	45.	800	.06
12	6.0	734	1.4	59	42.5	801	.11
13	7.8	735	1.4	60	48.	802	.17
14	9.9	736	2.2	61	66.	803	.25
15	11.5	737	2.2	62	66.5	804	.35
16	14.3	738	2.8	63	95.	805	.38
16A	14.	739	2.8	64	113.5	806	.51
17	20.					807	.87
18	28.6	Pages 16 & 17		Page 18		808	1.4
19	34.5	No.		No.		809	1.8
19A	34.	21	.08	601	.07	810	2.8
20	52.	22	.11	602	.11	811	3.
20A	48.5	23	.15	603	.16	812	4.2
21A	95.	24	.18	604	.19	813	5.6
21B	94.	25	.23	605	.31	814	7.2
21C	85.5	26	.30	606	.41	815	8.8
22A	167.	27	.34	607	.60	816	10.5
22B	156.	28	.40	608	1.1	817	14.3
700	.09	29	.49	609	1.7	818	17.2
701	.13	30	.61	610	2.5	819	24.2
702	.21	31	.76			820	41.5
703	.32	32	1.0	Page 19		Page 21	
704	.44	33	1.0	No.		No.	
705	.65	34	1.4	623	.13	H808	1.6
706	.92	35	1.4	624	.13	H809	2.3
707	1.4	36	2.2	625	.12	H810	3.1
708A	2.2	37	2.2	626	.21	H811	3.8
709	2.6	38	2.9	627	.19	H812	5.4
		39	2.9	628	.17	H813	6.5
		40	3.7	629	.37	H814	7.8
		41	3.5	630	.36	H815	10.3
		42	5.5	631	.35	H816	12.5
		43	5.5			H817	16.3
		44	7.8				

WEIGHTS OF STANDARD DROP-FORGED WRENCHES

ARRANGED IN PAGE ORDER

Following table indicates approximately the weights of products listed

Wrenches	Weight Each, lbs.	Wrenches	Weight Each, lbs.	Wrenches	Weight Each, lbs.	Wrenches	Weight Each, lbs.
Page 22		Page 27		Page 32		Page 35 Contd.	
No.		No.		No.		No.	
500	.04	760	.17	201-2	.28	440	1.0
501	.09	761	.29	203-4	.52	442	1.1
502	.22	762	.55	205-6	1.0		
503	.29	763	.75	207	1.8	452	.10
504	.44	764	1.2	208	2.7	453	.09
505	.54	765	1.8	209	3.6	454	.14
506	.72			210	5.1	455	.16
507	.89			211-12	7.	456	.21
508	1.3	Page 28				457	.27
509	1.5			Page 33		458	.31
510	2.1	No.				459	.35
511	2.5	580	.04	No.		460	.48
		581	.08	901-2	.32	461	.51
Page 23		582	.11	903-4	.63	462	.56
No.		583	.14	905-6	1.2	463	.66
523	.06	584	.21	907	1.9	464	.76
524-5	.13	585	.29	908	2.8	466	1.3
526-7	.20	586	.35	909	4.1	468	1.9
528-9	.34	587	.54	910	5.6		
530-1	.53	588	.68	911-12	7.9	Page 36	
532-3	.71	589	1.1			No.	
534-5	1.0	590	1.5	Page 34		403	.13
536-7	1.5					404	.26
538-9	1.8	Page 29		No.		405	.34
540-1	2.4			367	1.5	406	.50
542-3	3.6	No.		370	2.6	407	.72
		595	.71	371-3	3.5	408	1.
Pages 24 & 25		596	1.1	374-6	4.1	409	1.2
No.		597	1.4	377-9	4.8	410	1.4
661	.17	598	1.7	380-2	5.4	412	2.7
662	.30			383-5	6.		
663	.48	Pages 30 & 31		387-9	8.5	491	.17
664	.94					493	.21
665	1.4	No.		Page 35		494	.23
666	2.1	554	.41	No.		495	.25
667	3.4	555	.53	418	.14	496	.24
668	5.4	556	.76	420	.16	497	.25
		557	.97	422	.20	498	.25
Page 26				424	.27		
No.		562	.59	426	.31	Page 37	
75	.20	563	.80	428	.40	No.	
77	.27	564	.90	430	.50	471	.25
79	.46	565	1.1	432	.52	472	.48
81	.72	566	1.5	434	.64	474	.93
83	1.0	567	2.2	436	.76		
85	1.7	568	3.2	438	.80	482	.41
						483	.76
						484	1.1

WEIGHTS OF STANDARD DROP-FORGED TOOLS

ARRANGED IN PAGE ORDER

Following table indicates approximately the weights of products listed

Wrenches	Weight Each, lbs.	Wrenches	Weight Each, lbs.	Wrenches	Weight Each, lbs.	Wrenches	Weight Each, lbs.
Pages 38 & 39		Page 50 Contd.		Pages 52 & 53 Contd.		Page 55	
No.		No.		No.		No.	
960	.06			1721	.08	1075	.20
961	.12	G- 7	1.5	1722	.10	1077	.27
962	.21	G- 8	2.2	1723	.10	1079	.46
963	.28	G- 9	4.0	1725	.16	1081	.72
964	.31	G-10	4.1	1726	.26	1083	1.0
965	.45	G-11	5.1	1727	.26	1085	1.7
966	.60	G-12	6.5	1728	.37		
967	.83			1729	.37	Page 56	
968	1.1	G-25	.27	1730	.49		
969	1.3	G-26	.34	1731	.6	No.	
970	1.6	G-27	.39	1732	.79	1203	.52
971	1.9	G-28	.53	1733	.89	1205	1.0
973	2.9	G-29	.51	1734	1.2	1207	1.8
974	3.5	G-30	.65	1735	1.7	1208	2.7
975	4.	G-31	.81	1736	1.7	1209	3.6
976	4.7	G-32	1.2	1737	1.7	1210	5.1
977	6.7	G-33	1.2	1738	2.3	1212	7.
978	6.8	G-34	1.6	1739	2.3		
979	8.7	G-35	1.6			Page 57	
980	11.	G-36	2.4				
		G-37	2.4	Page 54			
Pages 40 & 41		G-38	3.	No.		No.	
No.		G-39	3.	1000	.07	1903	.63
260	.04	G-40	4.4	1000A	.09	1905	1.2
261	.05	G-41	4.4	1001	.13	1907	1.9
262	.15			1002	.22	1908	2.8
263	.17	Pages 52 & 53		1003	.33	1909	4.1
264	.20	No.		1004	.48	1910	5.6
265	.32	1021	.09	1005	.65	1912	7.9
266	.44	1022	.12	1006	.92		
267	.63	1023	.12	1007	1.5	Page 58	
268	.75	1024	.18	1008	2.2		
269	1.0	1025	.18	1009	2.8	No.	
270	1.3	1026	.26	1010	3.9	1800	.07
271	1.7	1027	.26	1011	4.8	1801	.11
273	2.7	1028	.37	1012	6.2	1802	.19
274	3.2	1029	.49	1013	8.	1803	.31
275	3.9	1030	.49	1014	10.	1804	.36
276	4.8	1031	.66			1805	.45
277	6.1	1032	.79	1700	.09	1806	.68
278	8.2	1033	.79	1701	.13	1807	.89
279	10.	1034	1.2	1702	.22	1808	1.5
280	12.5	1035	1.2	1703	.33	1809	1.9
		1036	1.7	1704	.48	1810	2.9
Page 50		1037	1.7	1705	.65	1811	3.1
No.		1038	2.1	1706	.92	1812	4.3
G- 5	.70	1039	2.2	1707	1.5	1813	5.6
G- 6	.91	1040	2.2	1708	2.1	1814	6.9
		1041	4.1	1709	2.7	1815	9.

WEIGHTS OF STANDARD DROP-FORGED WRENCHES

ARRANGED IN PAGE ORDER

Following table indicates approximately the weights of products listed

Wrenches	Weight Each, lbs.	Wrenches	Weight Each, lbs.	Wrenches	Weight Each, lbs.	Superelector Sockets	Weight Each, lbs.
Page 59		Page 61 Contd.		Page 66		Page 69 Contd.	
No.		No.		No.		No.	
H-1808	1.6	9723	.10	8924	.26	E1-623	2.5
H-1809	2.3	9725	.19	8928	.26	E1-624	2.5
H-1810	3.1	9725B	.22	8930	.26	E1-626	2.6
H-1811	3.8	9727	.29	8932	.25	E1-627	2.6
H-1812	5.4			8933	.24	E1-629	2.8
H-1813	6.5	Page 62		8934	.22	E1-630	2.8
H-1814	7.8	No.		8936	.22	E1-632	3.2
H-1815	10.3	7721	.11	8938	.34	E1-633	3.2
H-1816	12.5	7723	.13	8940	.34	E1-635	3.6
H-1817	16.3	7023	.16	8942	.31	E1-636	3.6
2273	2.7	7725	.16	8944	.27		
2275	3.9	7725B	.22	8946	.44	E2-432	5.7
2276	4.8	7025	.22	8948	.44	E2-435	6.
2277	6.1	7727	.31	8950	.45	E2-438	6.5
2278	8.2	7729	.48	8952	.41	E2-441	7.1
2279	10.	7029	.51			E2-444	7.9
2280	12.5	7731A	.66	Page 68		E2-447	9.
		7733	.94	No.		E2-450	10.
Page 60		7033C	.95	E1-24	9.3	E2-632	5.5
No.		7034	1.2	E1-36	12.8	E2-635	5.8
8128	.27	7034A	1.3	E2-36	20.9	E2-638	6.3
8132	.39	7735	2.	E2-48	24.	E2-641	6.7
8136	.5	7037	1.8	E3-48	40.6	E2-644	7.2
8140	.61	7737	2.8			E2-647	8.
8148	.86	7039	2.4	Superelector Sockets Page 69		E2-650	9.
Page 61		6723	.08	No.		E3-450	16.
No.		6725	.11	E1-416	2.6	E3-456	17.
8021	.18	6725B	.14	E1-417	2.6	E3-462	18.3
8723	.26	6727	.18	E1-418	2.6	E3-468	19.9
8023	.37	Page 64		E1-420	2.6	E3-474	22.5
8725	.37	No.		E1-421	2.6		
8725B	.43	1471	.28	E1-423	2.8	E3-650	14.9
8025	.43	1472	.54	E1-424	2.8	E3-656	15.6
8727	.59	1474	.94	E1-426	2.9	E3-662	16.8
8729	.8	Page 65		E1-429	3.3	E3-668	17.9
8029	.84	No.		E1-430	3.3	E3-674	18.4
8731A	1.0	1113	.01	E1-432	3.5	Supersockets, Handles and Parts Page 72	
8033	1.3	1118	.03	E1-435	4.	No.	
8733	1.4	1122	.04	E1-436	4.	M-606	.014
8733C	1.4	1128	.07			M-607	.018
8034	1.3	1106	.02	E1-617	2.6	M-608	.019
8034A	1.3	1108	.03	E1-618	2.6		
8735	2.3			E1-620	2.5		
8037	2.1			E1-621	2.5		
8737	3.4						
8039	3.3						

WEIGHTS OF SUPERSOCKETS, HANDLES AND PARTS

ARRANGED IN PAGE ORDER

Following table indicates approximately the weights of products listed

Supersockets, Handles and Parts	Weight Each, lbs.	Supersockets, Handles and Parts	Weight Each, lbs.	Supersockets, Handles and Parts	Weight Each, lbs.	Supersockets, Handles and Parts	Weight Each, lbs.
Page 72 Contd.		Page 77 Contd.		Page 79		Page 85	
No.		No.		No.		No.	
M- 609 .019		B- 50A .43		S-10 1.8		H-20A 2.7	
M-1210 .022		B- 50B .43		S-15 2.		H-50 4.7	
M-1211 .025		B- 51 .44		S-20A .96		H-110 1.5	
M-1212 .031		B- 51A .44		S-20C .9		H-115 2.8	
M-1214 .038		B- 108 .16		S-40 1.4		HX-130 .59	
		B- 110 .23		S-41 1.9		H-140 1.2	
M- 406 .025		B- 115 .44		S-42 1.8		H-150 .27	
M- 407 .025		BS-130 .13		S-50 1.3		HH-150 .2	
M- 408 .025		BS-131 .15		S-51 1.4			
M- 810 .031		B- 140 .13		S-110 .81			
M- 812 .05				S-110P .53			
				S-115 1.3			
M- 20A .1				S-115P 1.0			
M- 42 .25				S-140 .34			
M- 110 .34				SH-130 .31			
M- 115 .17							
M- 130 .02							
M- 131 .03							
MM- 150 .03							
Page 76		Page 78		Page 84		Page 88	
No.		No.		No.		No.	
B- 608 .04		ST-1214 .11		H-1228 .41		X-1234 .6	
B-1210 .04		ST-1216 .12		H-1230 .4		X-1236 .7	
B-1211 .05		ST-1218 .13		H-1231 .43		X-1240 .85	
B-1212 .05		ST-1218 .11		H-1232 .5		X-1244 1.	
B-1214 .05		ST-1219 .13		H-1234 .51		X-1246 1.2	
B-1216 .06		ST-1220 .14		H-1236 .58		X-1248 1.3	
B-1218 .07		ST-1221 .14		H-1238 .69		X-1252 1.5	
B-1220 .09		ST-1222 .16		H-1240 .67		X-1258 1.8	
B-1222 .11		ST-1224 .19		H-1242 .78		X-1264 2.2	
B-1224 .13		ST-1225 .21		H-1244 .78		X-1270 2.9	
		ST-1226 .24		H-1246 .88		X-1276 3.5	
		ST-1228 .28		H-1248 1.		X-1280 3.1	
		ST-1230 .32		H-1252 1.		X-1282 4.9	
		ST-1231 .34		H-1254 1.3		X-1288 6.8	
		ST-1232 .38		H-1256 1.3			
		S-1234 .39		H-1258 1.9		X-20B 3.4	
		S-1236 .43		H-1260 1.9		X-20C 1.5	
		S-1238 .51		H-1264 2.1		X-50 6.5	
		S-1240 .53		H-1266 2.5		X-110 2.2	
				H-1268 2.6		X-115 4.3	
				H-1270 2.6		X-150 4.8	
				H-1272 2.5		XX-130 1.2	
				HD-1230 .75		XX-150 .56	
				HD-1234 .90			
				HD-1240 1.2			
				HD-1246 1.6			
Page 77							
No.							
F- 15 1.1							
B- 20A .26							
B- 30 .5							
B- 40 .57							
B- 42 .61							
B- 50 .43							

WEIGHTS OF STANDARD DROP-FORGED TOOLS

ARRANGED IN PAGE ORDER

Following table indicates approximately the weights of products listed

Tool Posts	Weight Each, lbs.	Tool Holders	Weight Each, lbs.	Tool Holders	Weight Each, lbs.	Tool Holders	Weight Each, lbs.
Page 107		Page 110		Page 115		Page 121	
No.		No.		No.		No.	
5	.44	00-S	.43	030R & L	.46	S-50	1.
10	.81	0-S	.69	30R & L	.80	S-51	1.6
20	2.1	1-S	1.1	31R & L	1.4	S-52	2.7
23	1.6	2-S	2.1	32R & L	2.3	C-50	.6
28	2.1	3-S	3.3	33R & L	3.7	C-51	1.1
30	3.	4-S	4.7	34R & L	4.9		
40	4.7	5-S	7.2	35R & L	5.	Page 122	
50	6.6	6-S	12.			No.	
60	13.6			Page 116		00-K	.55
		Page 111				0-K	.66
		No.		No.		11-K	1.9
		00R & L	.46	080	1.3	Dogs Page 128	
Tool Post Wedges Page 107		0R & L	.73	80	2.2		
		1R & L	1.3	81	3.1	No.	
		2R & L	2.5	82	6.7	1	.32
		3R & L	3.4	83	10.3	2	.56
		4R & L	4.9			3	1.0
		5R & L	7.8	Page 118		4	1.5
		6R & L	12.			5	1.9
No.				No.		6	2.6
5	.06	Page 112		15	.63	7	3.3
10	.13	No.		16	1.2	8	4.1
11	.09	0200-S	.57	17	2.6	9	5.4
15	.16	200-S	1.6	Page 119		10	7.
18	.18	201-S	2.			11	10.
20	.22	202-S	3.2	No.		12	12.
30	.25	204-S	6.	2	14.7	13	20.
40	.44	Page 113		3	23.8	Page 129	
60	.63	No.		4	39.	No.	
65	.75	0200R & L	.59	5	69.	112	15.
		200R & L	1.1	Page 120		113	21.5
Tool Post Rings Page 107		201R & L	2.			114	30.7
		202R & L	3.2	No.		Page 130	
		204R & L	6.	91	2.1	No.	
No.		Page 114		92	3.4	21	.19
5	.25	No.		93	6.	22	.34
10	.5	020-R	.42	94	12.	23	.66
11	.5	20-R	.74	95	20.6	24	1.06
14	.75	21-R	1.4	96	35.	25	1.5
18	1.3	22-R	2.1	97	57.	26	2.
20	.94	23-R	3.4			27	2.7
30	1.3	24-R	4.4			28	3.5
40	1.8	25-R	4.6				
60	2.2						

WEIGHTS OF STANDARD DROP-FORGED TOOLS

ARRANGED IN PAGE ORDER

Following table indicates approximately the weights of products listed

Dogs	Weight Each, lbs.	Clamps	Weight Each, lbs.	Caliper Gauges	Weight Each, lbs.	Crank Handles	Weight, Each, lbs.
Page 130 Contd.		Page 138		Page 142		Page 145	
No. 29 30 31 32 33	4.6 6. 9. 11. 19.5	No. 201 202 203 204	.25 .33 .56 .90	No. 2 4 6 8 10 12 14 16 18 20	 .06 .08 .12 .21 .29 .44 .59 .84 1.2 1.8	No. 00 0 1 2 4 6 8 10 12 14 16	 .38 .43 .78 .75 1. 1.1 1.2 1.6 2.4 2.5 3.2
Page 131		Page 139					
No. 132 133 134	13. 20.5 28.	No. 301 302 303 304	.6 1.4 1.9 3.1				
Page 132				Page 143		Machine Handles Page 146	
No. 61 62 63 64	.53 .98 1.8 3.	Pages 140 & 141		No. 22 24 26 28 30 32 34 36	 .94 1.2 1.6 2. 2. 2.2 3.2 4.2	No. 00 0 1 2 3 4 5 6 7 11 13 15 16	 .06 .09 .13 .22 .31 .37 .62 1.3 1.7 .22 .43 .75 1.1
Page 133		No. 54 56 58 59 54A 56A 58A 59A	1. 1.8 3.8 6.6 1.1 2. 3.9 7.1				
No. 42 43 44 45 46 47 48	.75 .93 1.2 1.3 1.6 1.8 2.1	74 76 78	1. 2. 4.2	Balance Handles Page 144		Thumb Nut Blanks "A" Page 147	Weight, lbs. Per 100
Clamps Page 134		30 35 40 44 46 48 64 66 68	.37 .62 .87 .83 1.6 3.3 1. 2. 4.	No. 512 516 520 522 525 529 434 439	 .25 .56 .75 1.1 1.3 1.6 1.3 2.8	Size 1/8 3/16 1/4 5/16 3/8 7/16 1/2 9/16 5/8 3/4	 .62 1.3 2.3 4. 6.2 9.1 12.7 16.2 22.5 37.

ARRANGED IN PAGE ORDER

Following table indicates approximately the weights of products listed

Thumb Nut Blanks "B"	Weight, lbs. Per 100	Thumb Screw Blanks "C"	Weight, lbs. Per 100	Hoist Hooks	Weight Each, lbs.	Rope Sockets	Weight Each, lbs.
Page 147		Pages 148 & 149 Contd.		Pages 152 & 153 Contd.		Pages 154 & 155 Contd.	
Size		Size		No.		No.	
1/8	.94	7/16 x 3	21.2	24	1.1	110	7.1
3/16	1.6	7/16 x 4	26.2	25	1.5	111	11.6
1/4	2.8	1/2 x 1	16.2	26	2.2	112	11.5
5/16	4.2	1/2 x 2	21.2	27	3.	113	20.6
3/8	6.8	1/2 x 3	27.	28	4.4	114	20.6
7/16	9.5	1/2 x 4	32.5	29	6.	115	33.8
1/2	13.7	9/16 x 1	21.	30	8.	116	33.8
9/16	15.3	9/16 x 2	27.5	31	10.3		
5/8	21.8	9/16 x 3	35.3	32	14.		
3/4	38.	9/16 x 4	42.8	33	20.		
		5/8 x 1	26.8	34	31.5		
		5/8 x 2	34.3	35	51.7		
		5/8 x 3	46.5	36	86.		
		5/8 x 4	54.6	36A	88.		
		3/4 x 1	38.7				
		3/4 x 2	53.				
		3/4 x 3	66.				
		3/4 x 4	78.7				
Thumb Screw Blanks "C" Pages 148 & 149				Rope Sockets Pages 154 & 155		Eye Bolts Pages 156 & 157	
Size		Hoist Hooks Pages 152 & 153	Weight Each, lbs.	No.		No.	
1/8 x 1	.94			2	.4	3	.17
1/8 x 2	1.3			3	.4	4	.23
1/8 x 3	1.6			4	.75	5	.33
1/8 x 4	2.1			5	.75	6	.5
3/16 x 1	2.1	No.		6	1.3	7	.68
3/16 x 2	3.4	2	.59	7	1.3	8	1.1
3/16 x 3	4.3	3	.78	8	2.2	9	1.5
3/16 x 4	5.6	4	1.	9	3.2	10	2.1
1/4 x 1	4.	5	1.6	10	4.4	11	3.
1/4 x 2	5.3	6	2.1	11	8.	12	4.2
1/4 x 3	7.8	7	3.	12	8.	14	6.8
1/4 x 4	8.7	8	4.4	13	15.5	15	10.9
5/16 x 1	6.2	9	6.2	14	15.5	16	15.1
5/16 x 2	7.8	10	8.	15	23.5	17	31.
5/16 x 3	10.6	11	10.	16	23.5		
5/16 x 4	13.7	12	13.3			21	.05
3/8 x 1	10.	13	17.8			22	.10
3/8 x 2	12.5	14	26.7			23	.20
3/8 x 3	16.	15	44.			24	.26
3/8 x 4	19.3	15A	46.			25	.40
7/16 x 1	13.7	16	75.			26	.54
7/16 x 2	16.5	16A	76.			27	.72
		22	.53	102	.5	28	1.1
		23	.75	103	.5	29	1.8
				104	1.3	30	2.4
				105	1.3	31	3.5
				106	1.7	32	4.6
				107	1.7	34	7.5
				108	3.	35	12.5
				109	4.2	36	18.

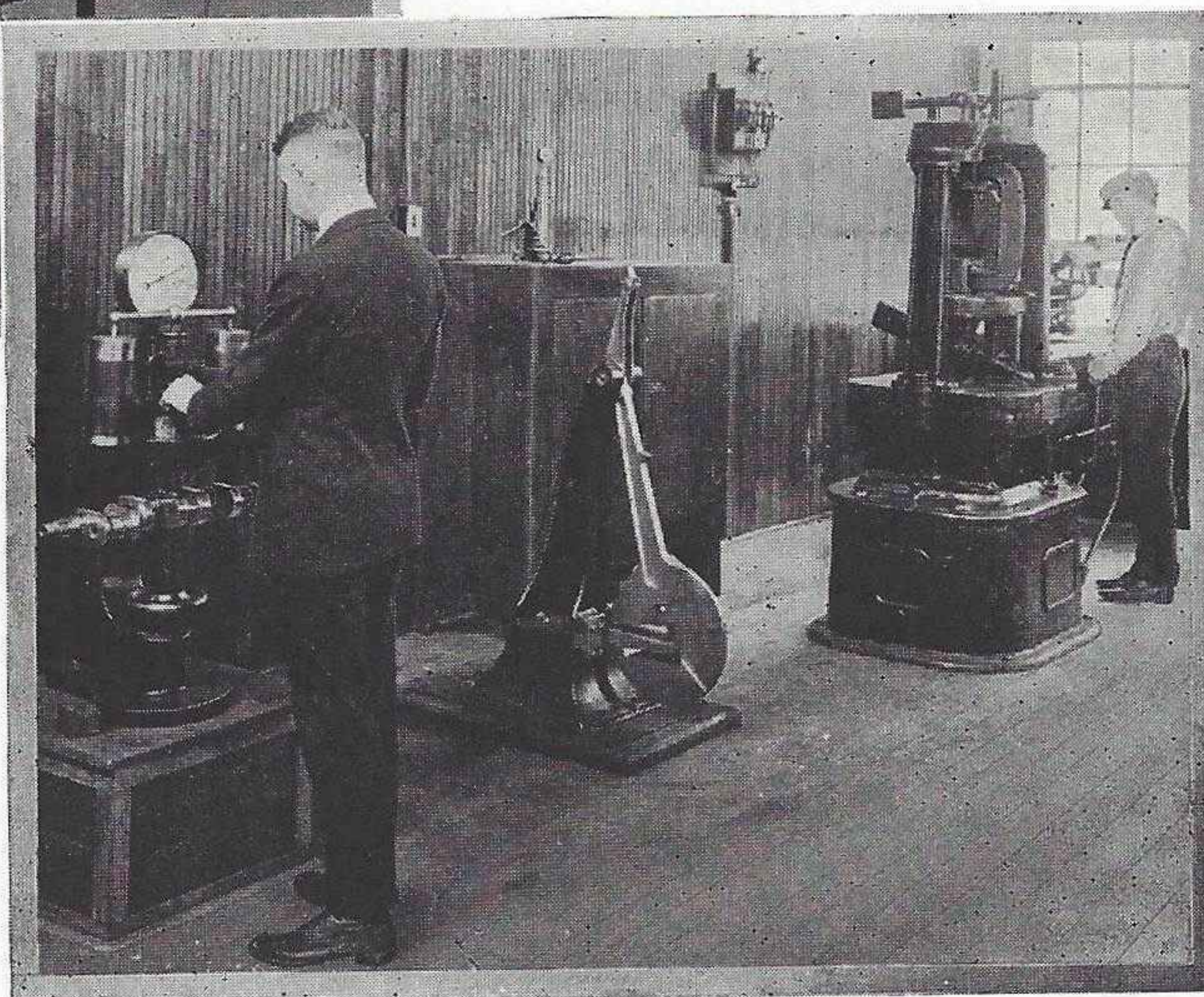
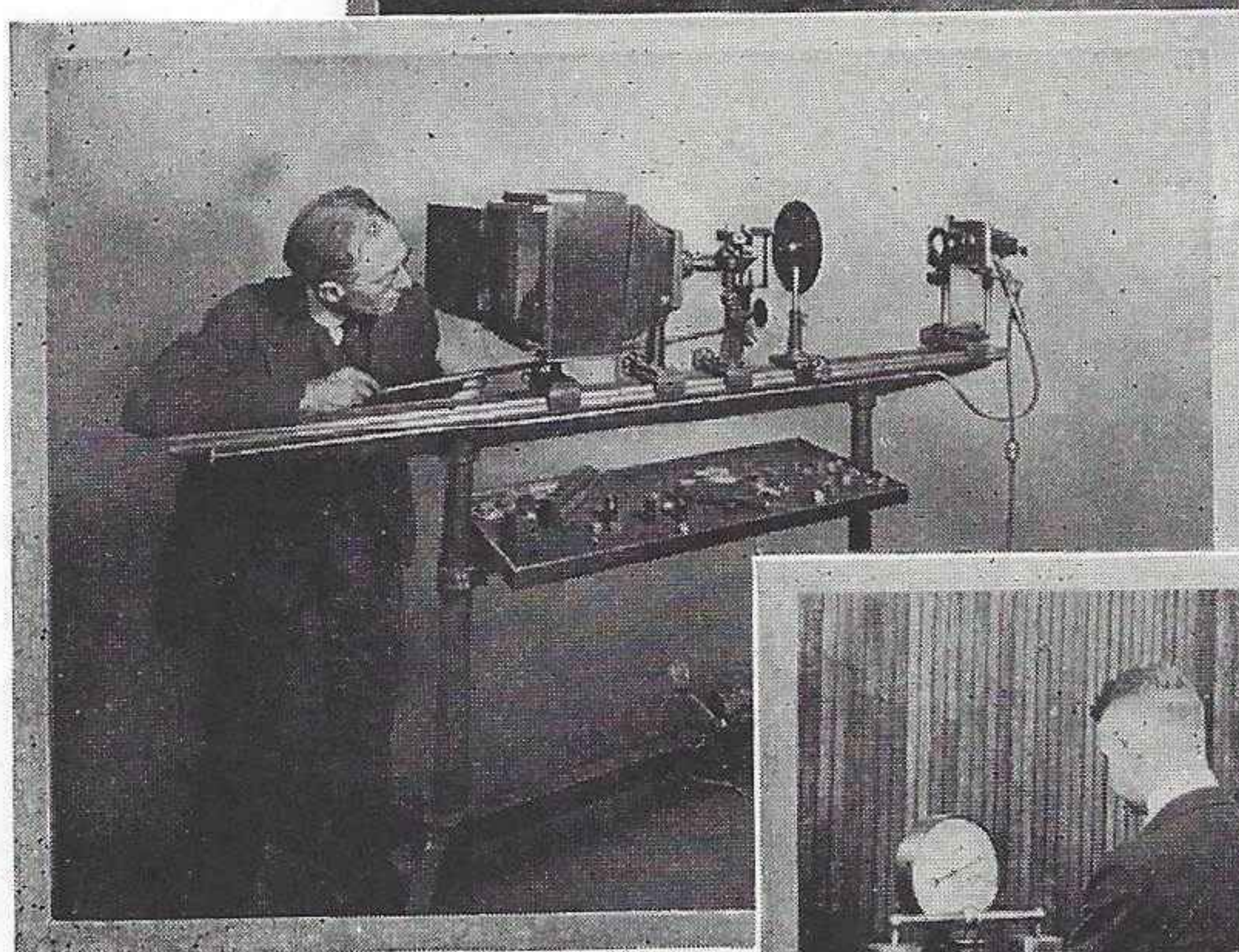
SPECIAL DROP-FORGINGS TO ORDER

Drop-forgings are used in vast quantities for a wide variety of mechanical purposes. They are made of aluminum, bronze, copper, iron and steel.

Their quality depends upon the material and the care and skill used in their manufacture. Our Chemical Laboratory checks all material as received; our Physical Laboratory tests forgings while in process and upon completion; our skill has been developed by half-a-century's experience in producing our standard stock tools and innumerable special designs to order.

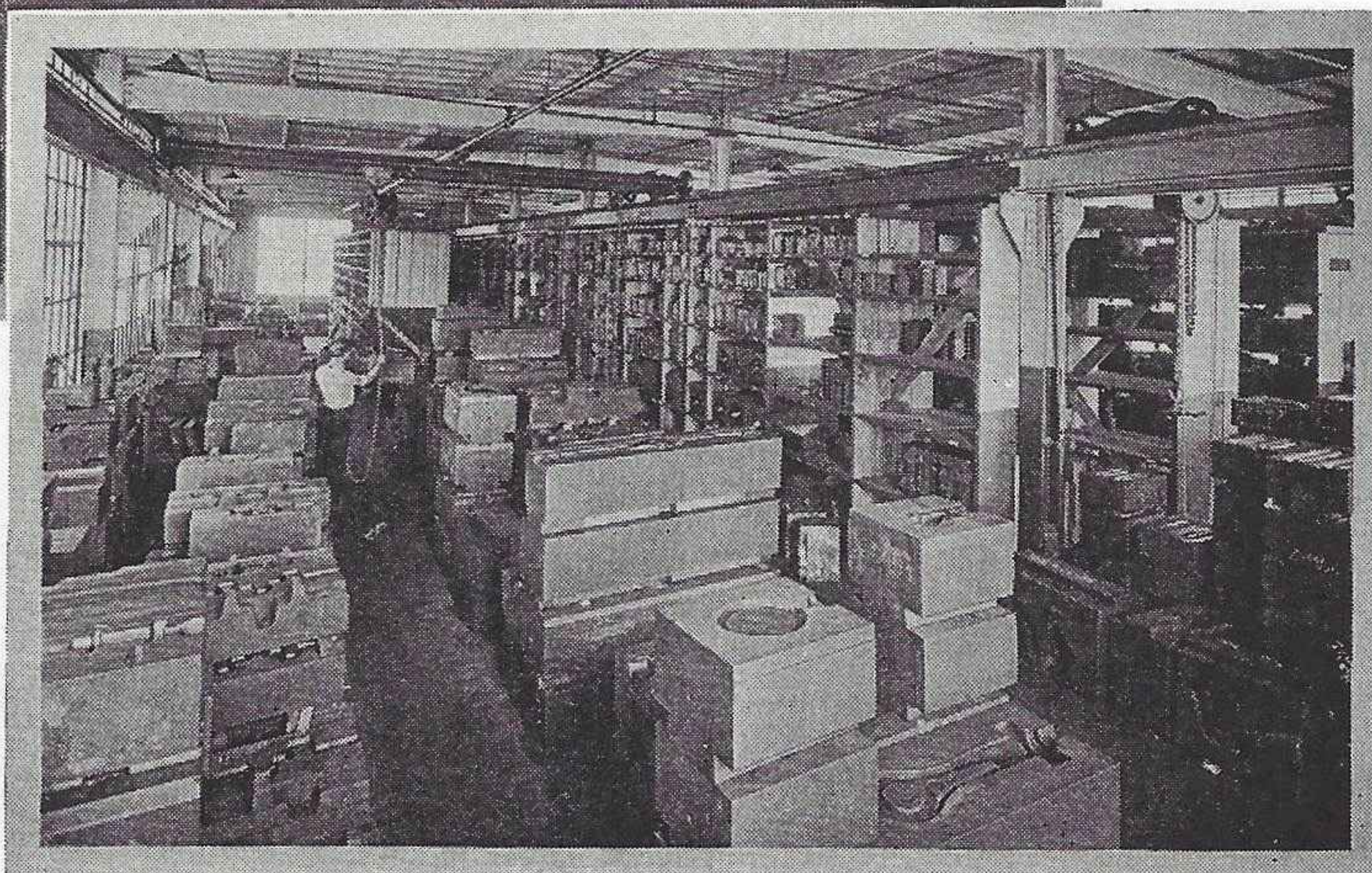
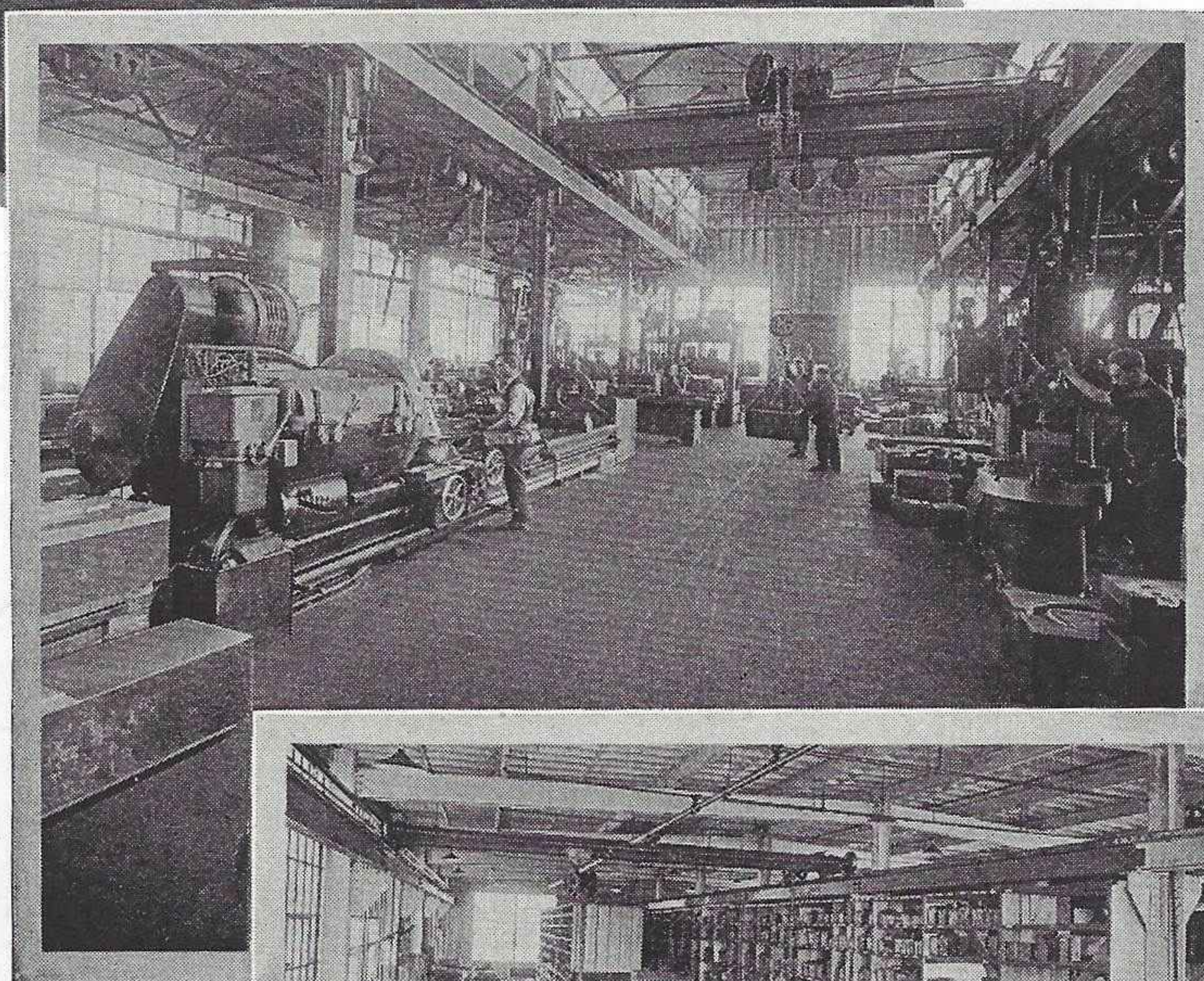
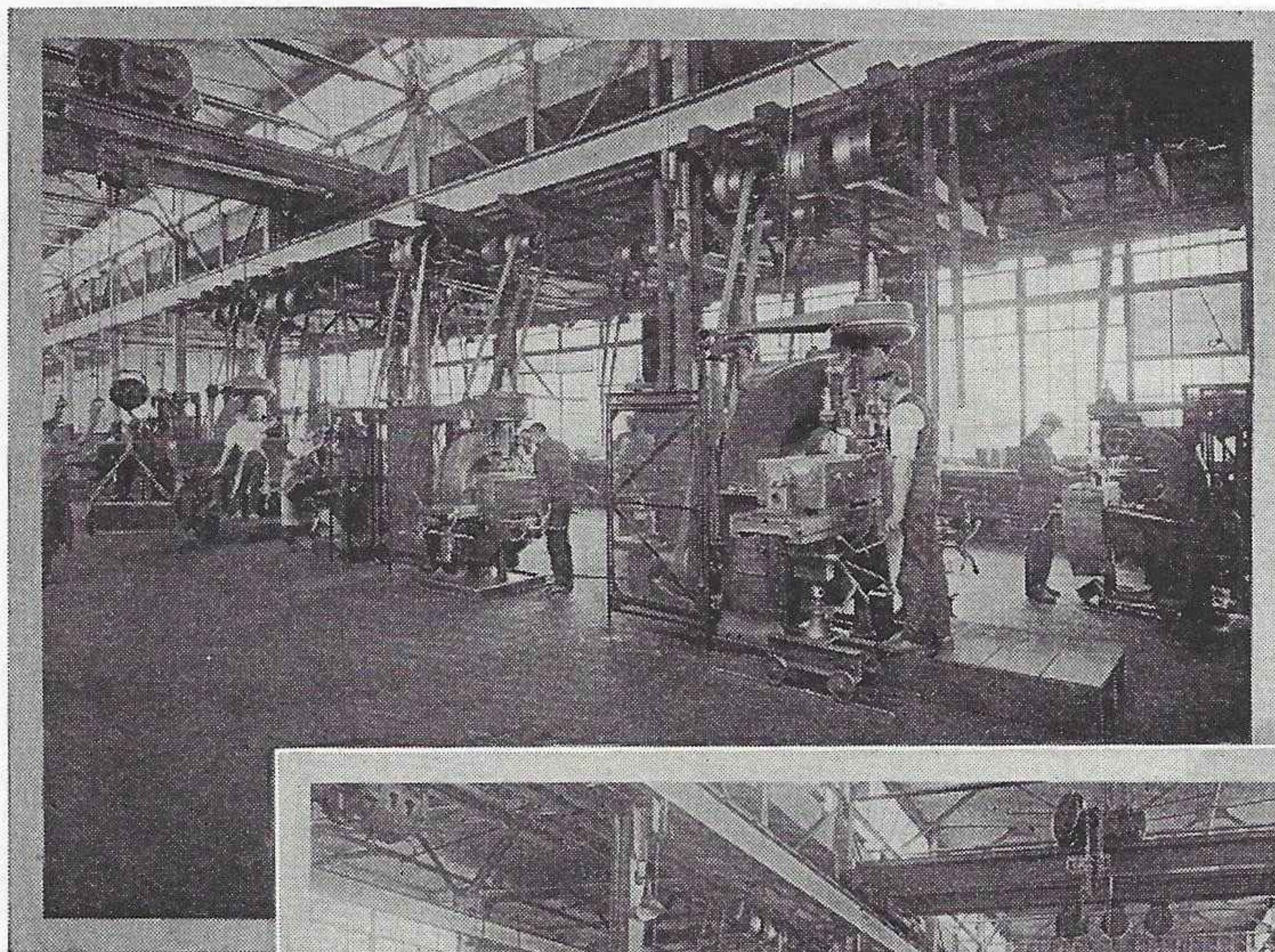
MATERIAL

The material usually employed in making drop-forgings is bar steel. By carrying thousands of tons of assorted grades, shapes and sizes, many orders for special forgings can be completed without waiting to obtain the material. This is often a great convenience to our customers, particularly in the case of new dies, where the correct size of metal required cannot always be definitely determined until the tools are completed and tried.



SPECIAL DROP-FORGINGS TO ORDER DIES

Our facilities for sinking drop-forging dies, from the smallest, weighing only a few pounds, to massive blocks of several tons weight each, are unexcelled. Charges, when made for the use of dies, include but a portion of their cost and do not convey the right of removal from our works; we cannot sell or part with the tools. We assume the risk and expense of their breakage and maintenance; the customer controls their use, as we will not make forgings from them without his written authority.



SPECIAL DROP-FORGINGS TO ORDER

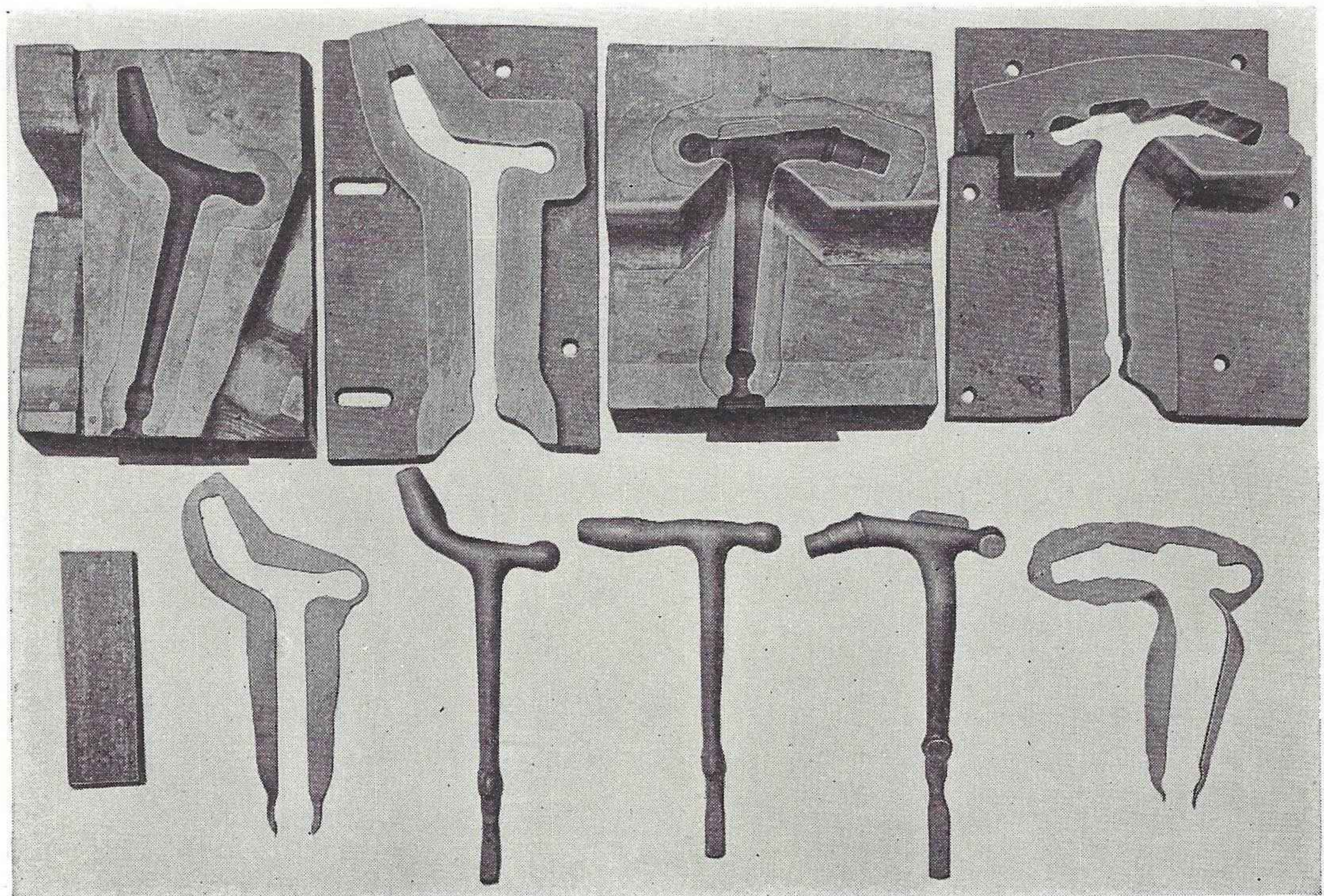
ESTIMATES

Dies are made to conform to a drawing; they usually differ from the finished part by the addition of the stock for removal in finishing and by the necessary draft, or taper, to permit drawing the forgings from them. Draft is seldom less than seven degrees—frequently it is more. Before sinking dies, we always submit to the customer for approval, a blue print showing the addition of the stock to be removed in finishing and the draft, with such other modifications as may be necessary.

When estimates are desired, therefore, send us a model, or drawing, of the part and state whether it shows “forging size” or “finished size”, the quantity of forgings wanted and the material of which they are to be made. If the model, or drawings shows “finished size,” tell us what surfaces are to be finished. We usually add at least $\frac{1}{32}$ inch on each surface to be machined. On large forgings, such as crankshafts, we add $\frac{1}{16}$ to $\frac{1}{8}$ inch; on small pieces, requiring only grinding or polishing, $\frac{1}{100}$ inch is allowed.

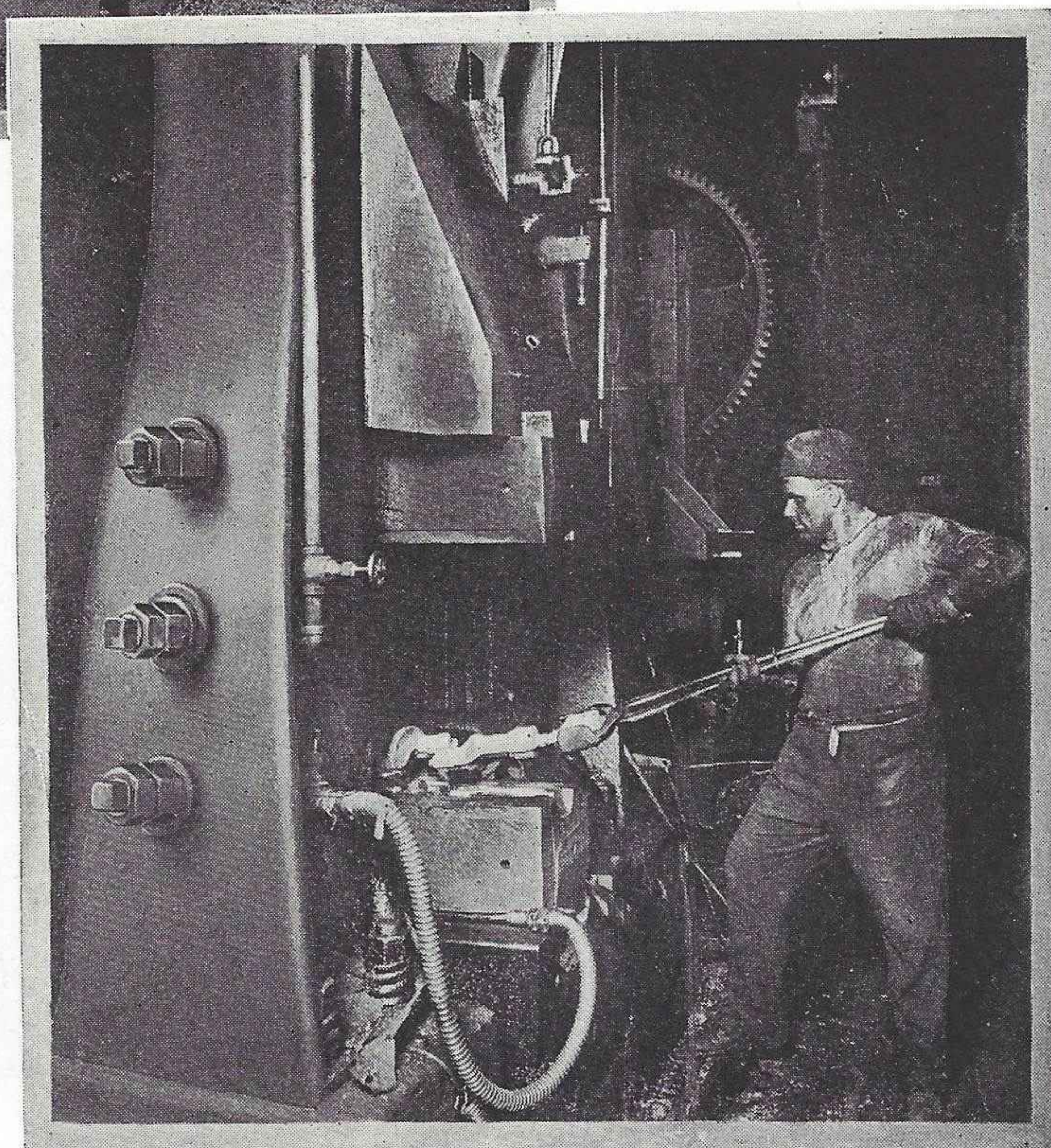
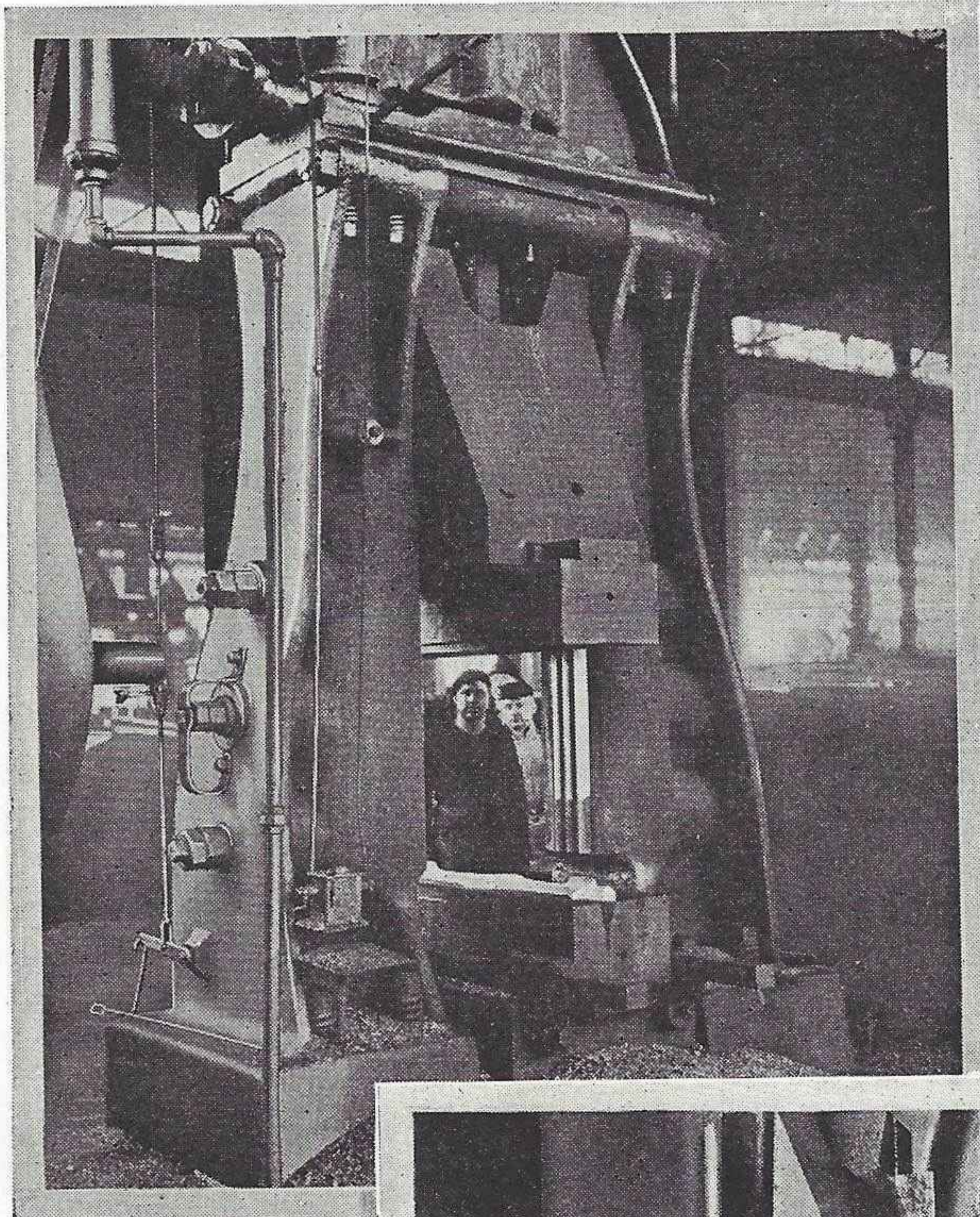
We can often save customers expense if informed of the use for which the forgings are intended. The price is largely affected by the quantity made with one setting of the tools; it costs as much to set dies for 100 as for 1000 pieces, and the forging work is also more costly per unit in small lots. Prices for special drop-forgings are made per piece, not per pound, and vary with the nature of the work, the material used and the quantity taken at one time.

Drop-forgings sometimes require the use of several sets of tools; the “breakdown” and “finishing” dies and trimmers, together with the length of bar steel, and the various stages of manufacture of such a part, are shown below.



**SPECIAL DROP-FORGINGS TO ORDER
EQUIPMENT**

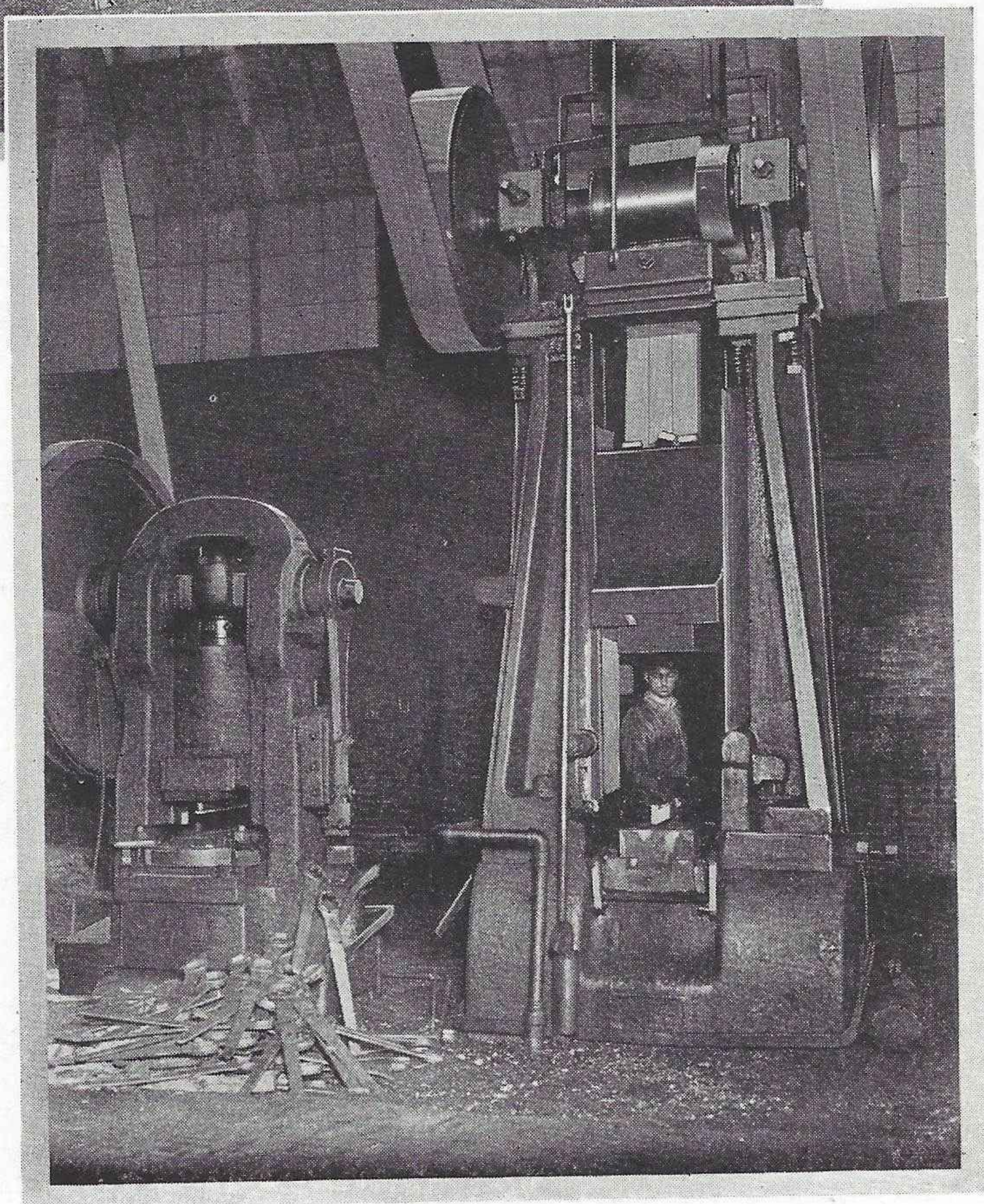
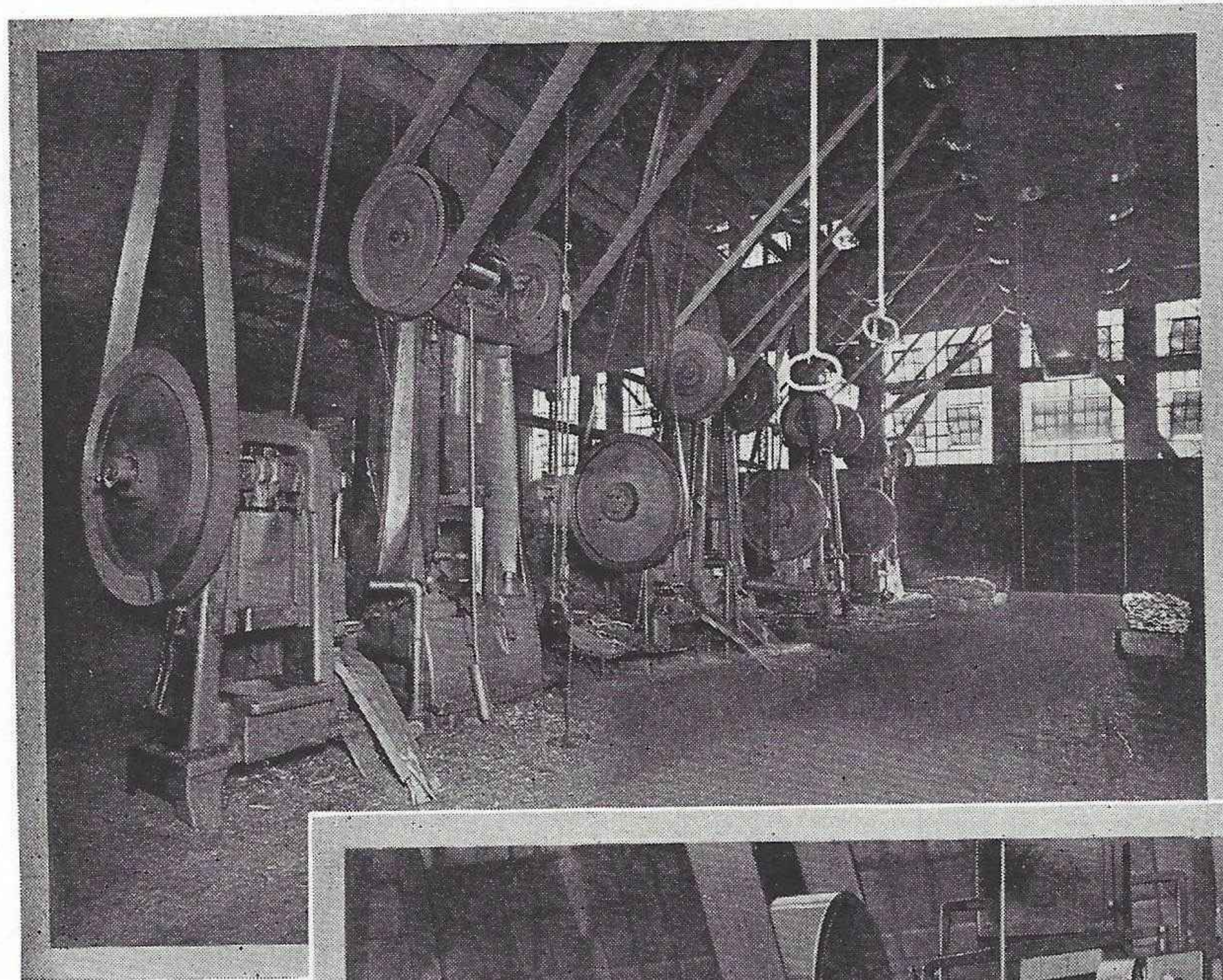
Our forging equipment consists of Board Drops from 300 to 3,000 lbs., Steam Drops from 2,500 to 12,000 lbs., Steam Hammers, Trip Hammers, Upsetting Machines
(Continued on next page)



SPECIAL DROP-FORGINGS TO ORDER

EQUIPMENT (Continued)

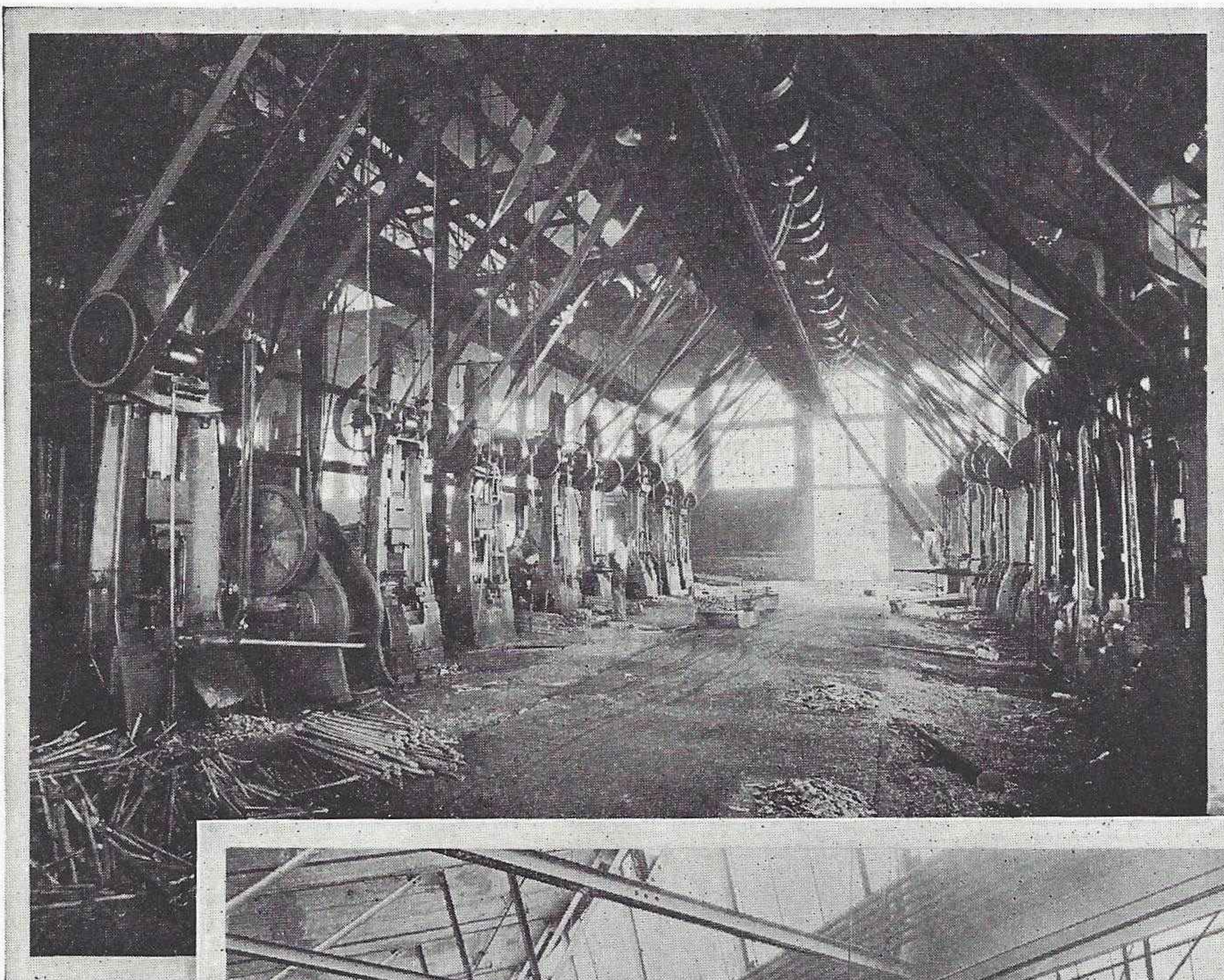
(sometimes called "Headers"), Bulldozers, Hydraulic Presses, Electric Welding Machines, Rolls, Shears, Hot and Cold Sawing Machines, Shot-blasting Machines, etc., etc.



SPECIAL DROP-FORGINGS TO ORDER

EQUIPMENT (Continued)

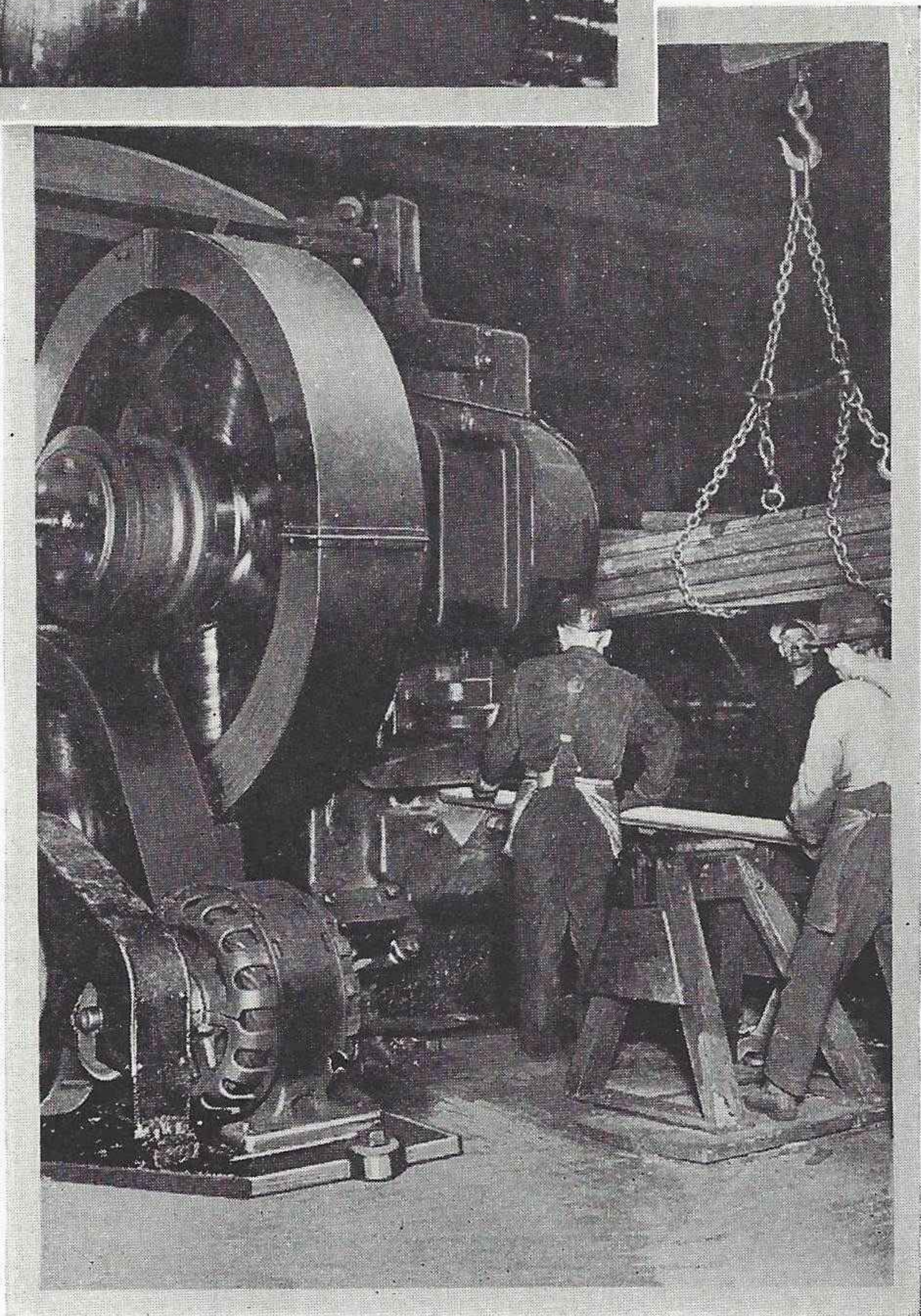
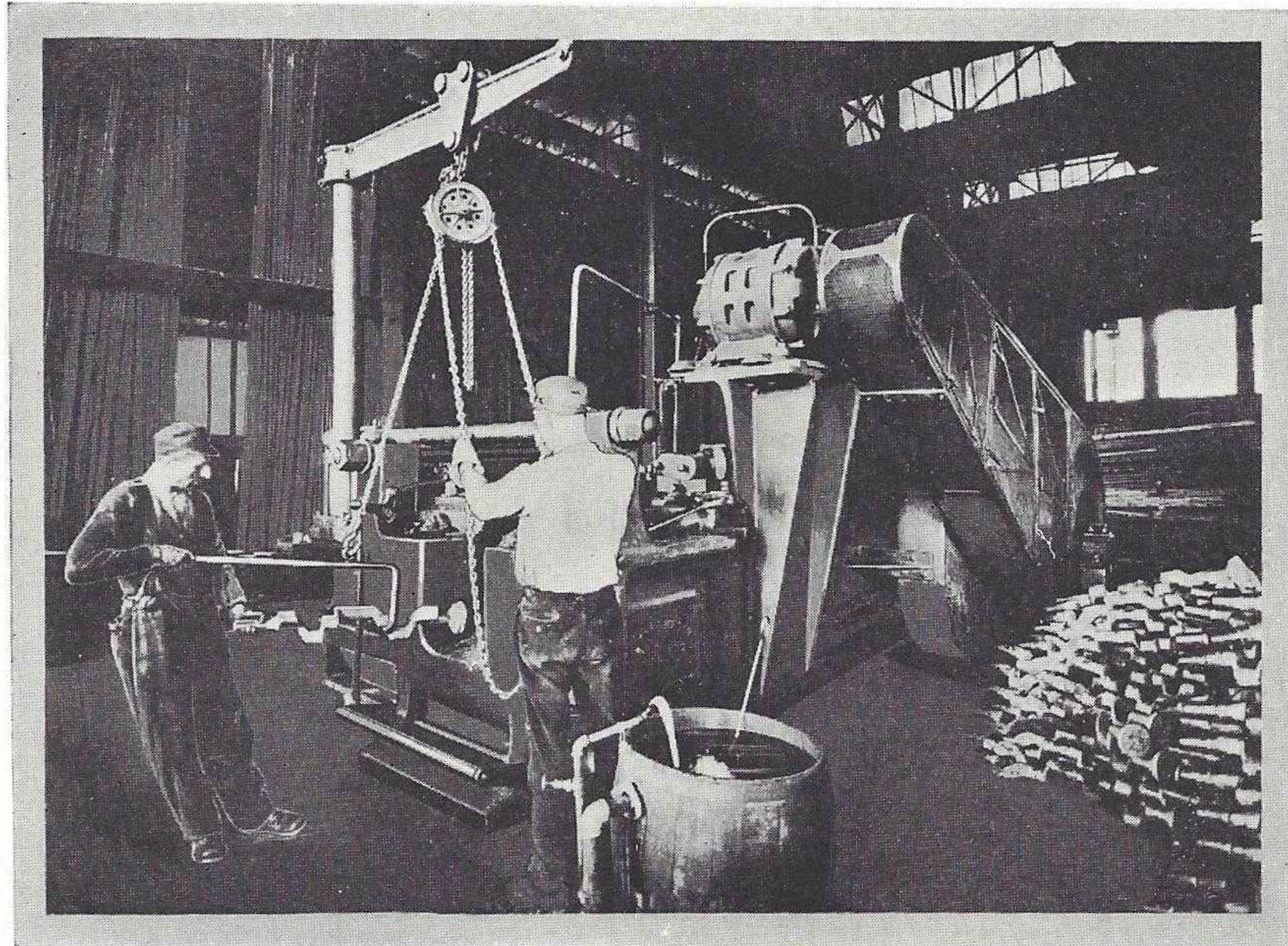
On the preceding page and below are shown batteries of Board Drops, also a "close-up" of a 3000 lbs. Hammer of this type. Many of these Board Drops are provided with trimming Presses for removing, while the part is still hot, the surplus metal, or "flash," which flows out between the dies during the forging process. These "hot" Presses are also used to cut the forging from the end of the bar of metal from which it has been made. Where the size and shape of the piece are such that this trimming operation can be performed after the forging has cooled, "cold" Presses are used. A battery of these machines is illustrated below.



SPECIAL DROP-FORGINGS TO ORDER

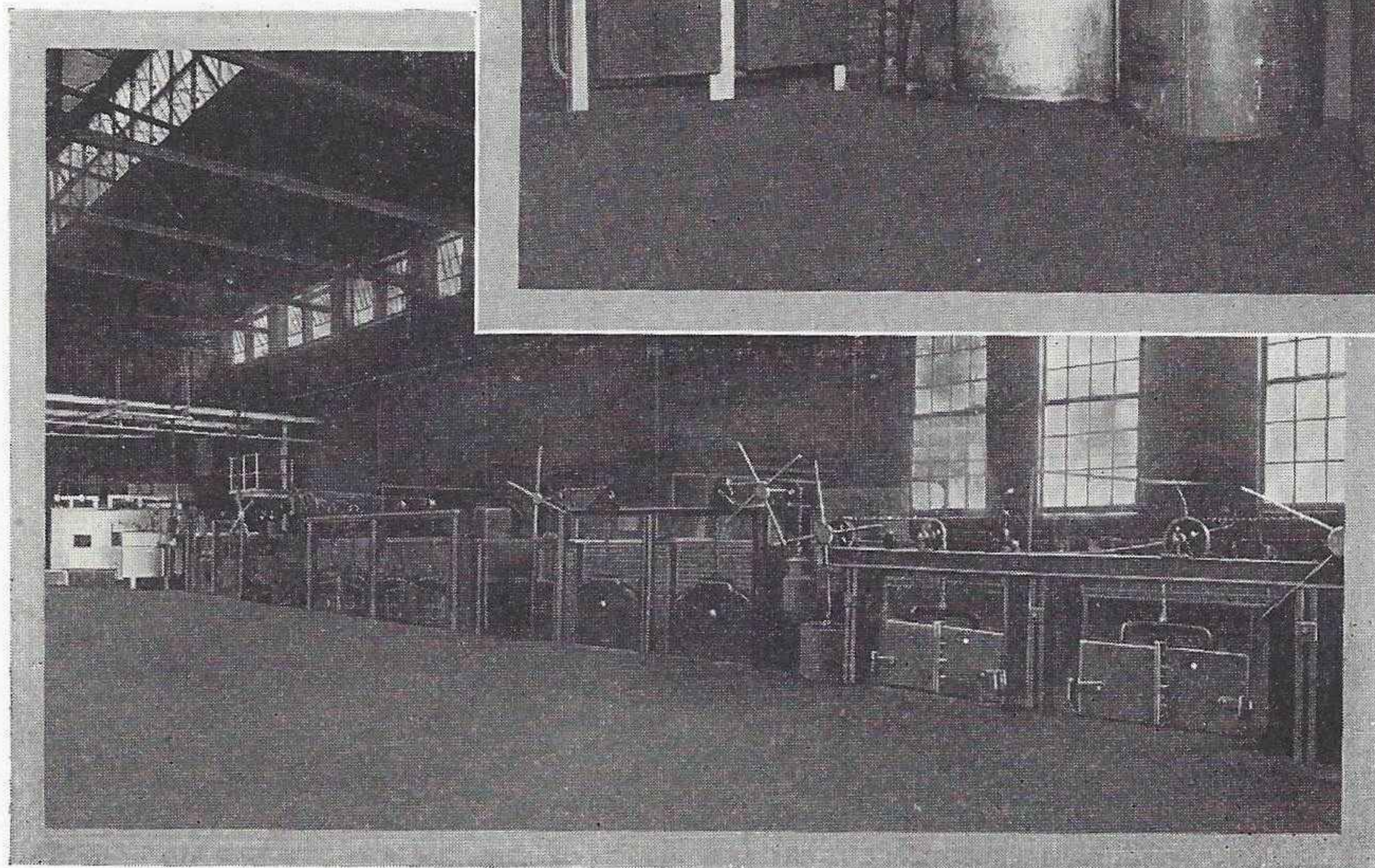
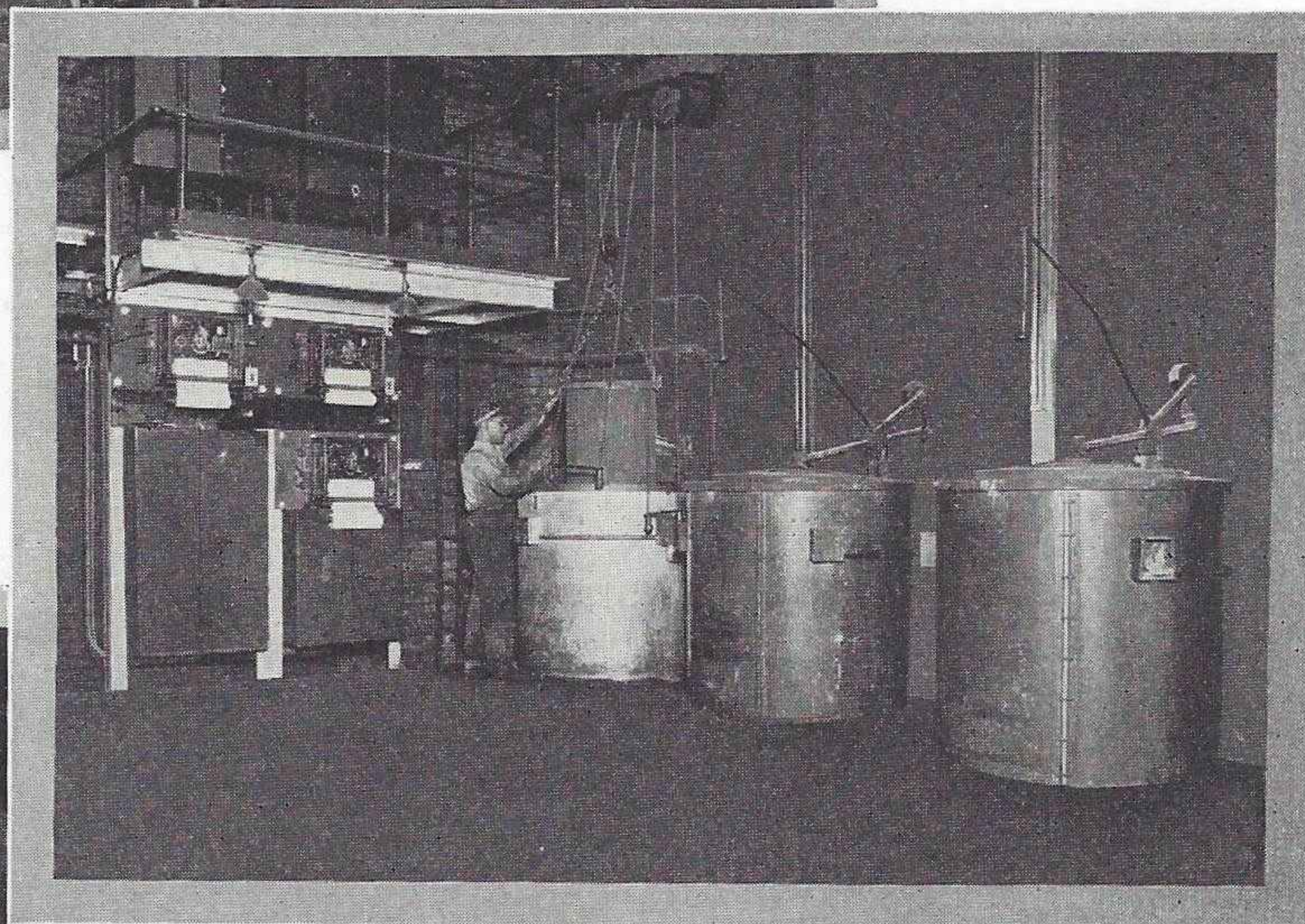
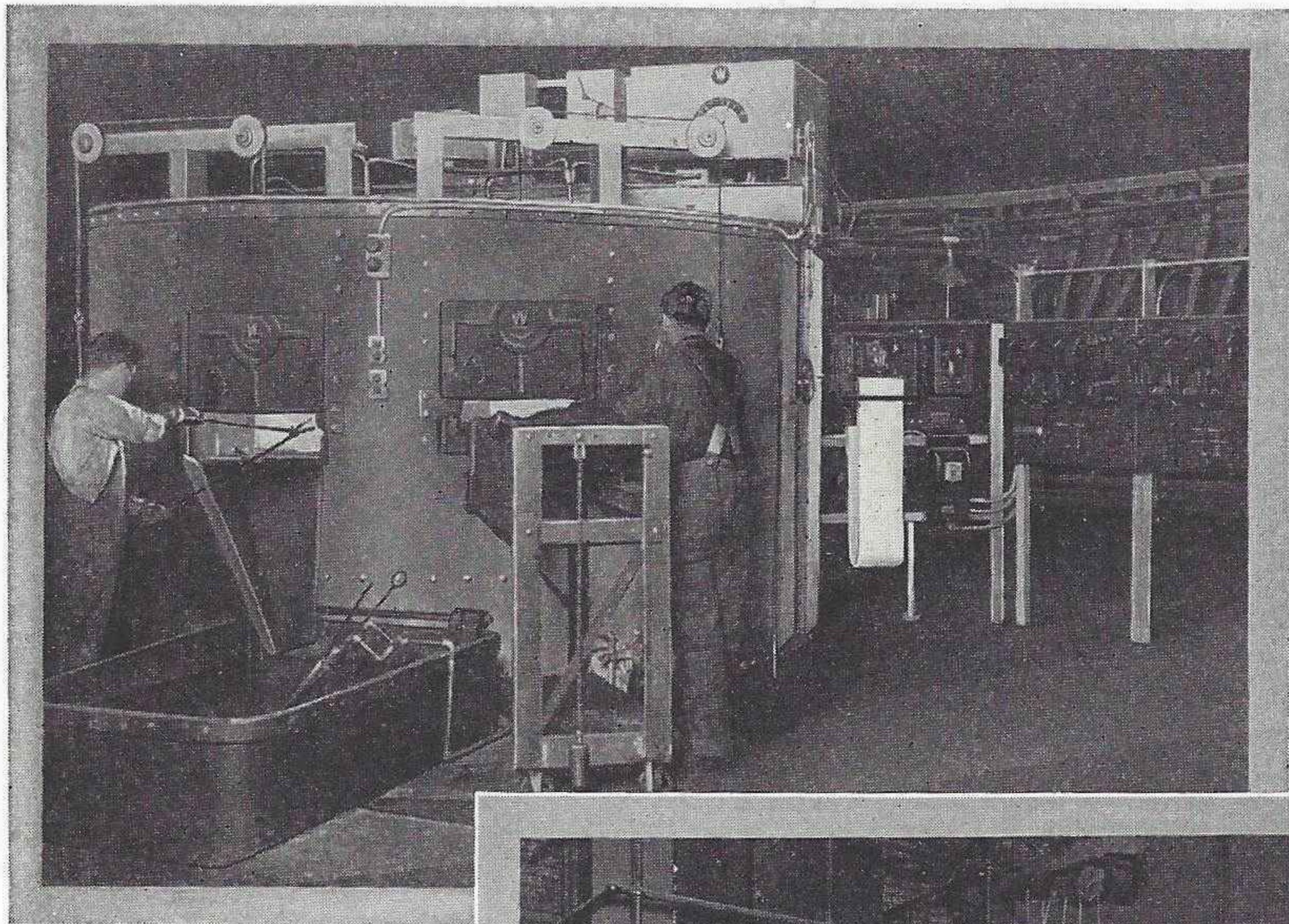
EQUIPMENT (Continued)

Our Upsetters are of sizes suitable for stock up to 6 inches diameter; our Shears cut steel bars, cold, 5 inches square.



SPECIAL DROP-FORGINGS TO ORDER**HEAT TREATMENT**

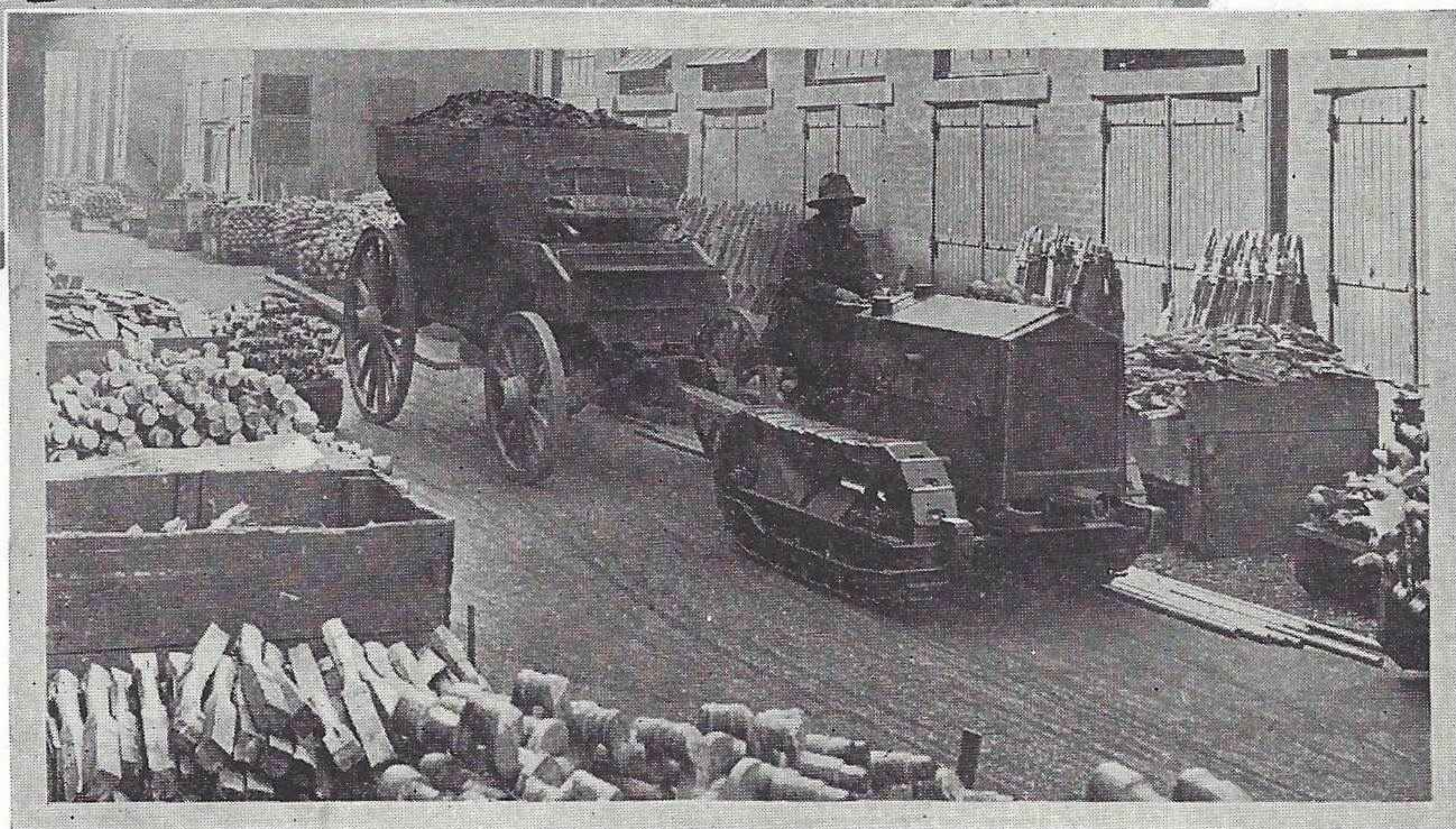
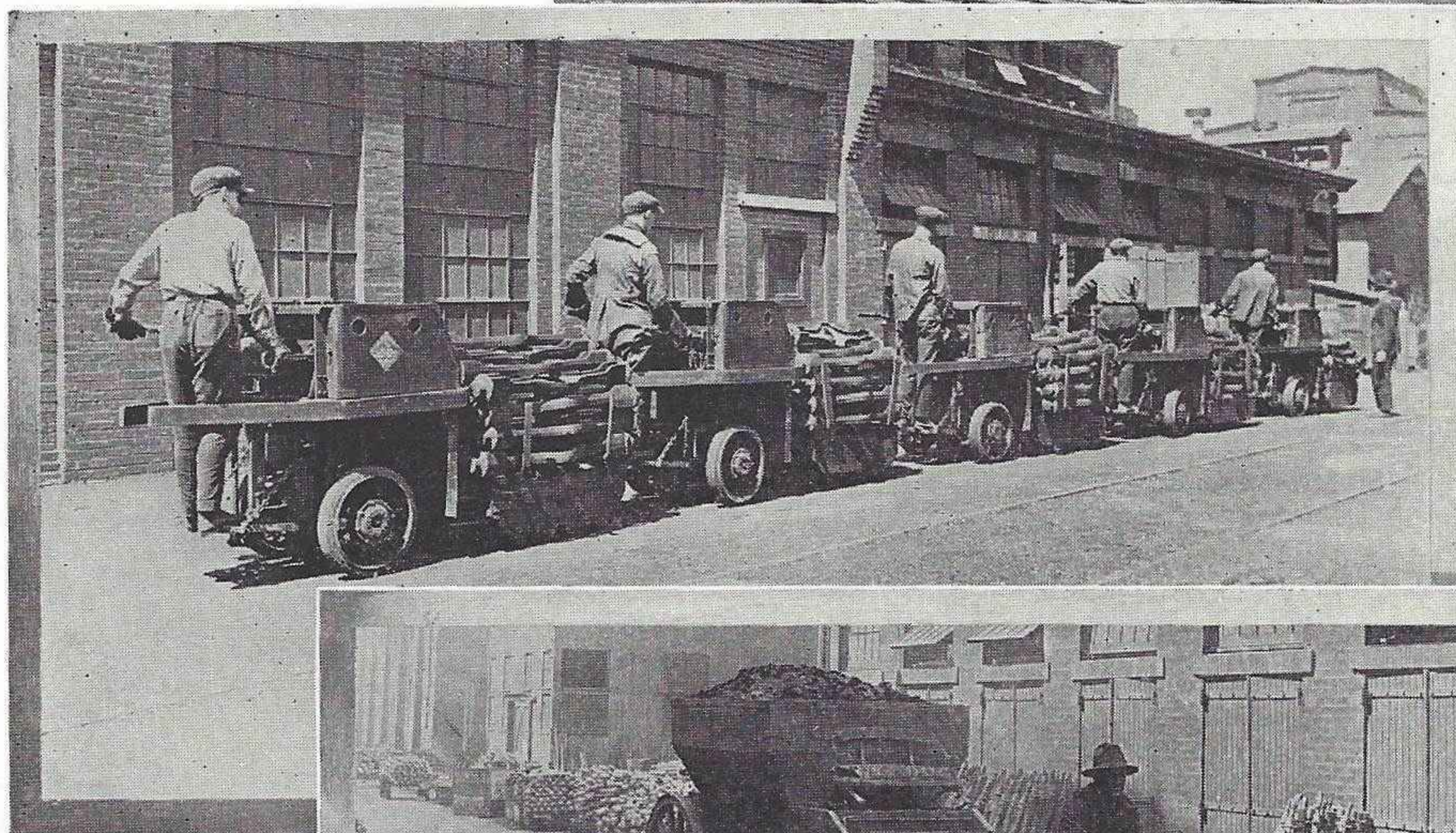
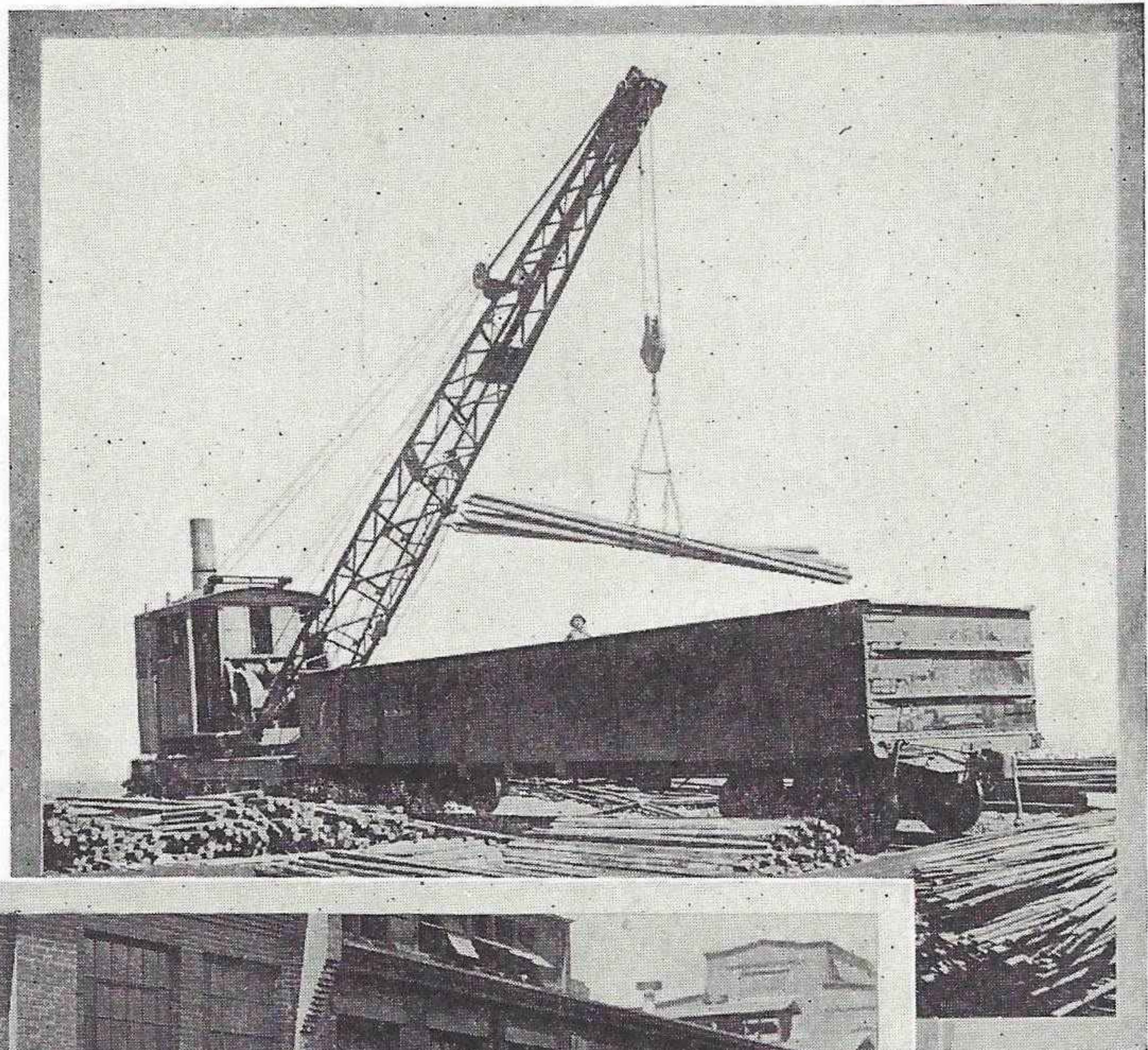
Our Annealing, Case-hardening and Heat-treating facilities are complete and of the most modern type. Automatically controlled rotary hearth electric furnaces, Homo electric furnaces and oil-fired furnaces of large capacity, all equipped with recording pyrometers. The methods and processes employed are all specified and controlled by our Metallurgical Department, directed by a highly trained technical staff.



SPECIAL DROP-FORGINGS TO ORDER

SHOP TRANSPORTATION

Many modern conveniences to aid in the economical movement of forgings during the process of manufacture are employed. These include locomotive crane for switching cars and handling steel, gasoline tractor (shown hauling ashes to fill in depressions in yard surface), electric lift-trucks, in addition to hand lift-trucks, traveling cranes, etc., etc.



SUPERIOR DROP-FORGINGS **WILLIAMS** AND DROP-FORGED TOOLS

INSPECTION

All of our product is carefully inspected by experienced men employed only on this work and every precaution is taken to insure none but perfect forgings leaving our plants.

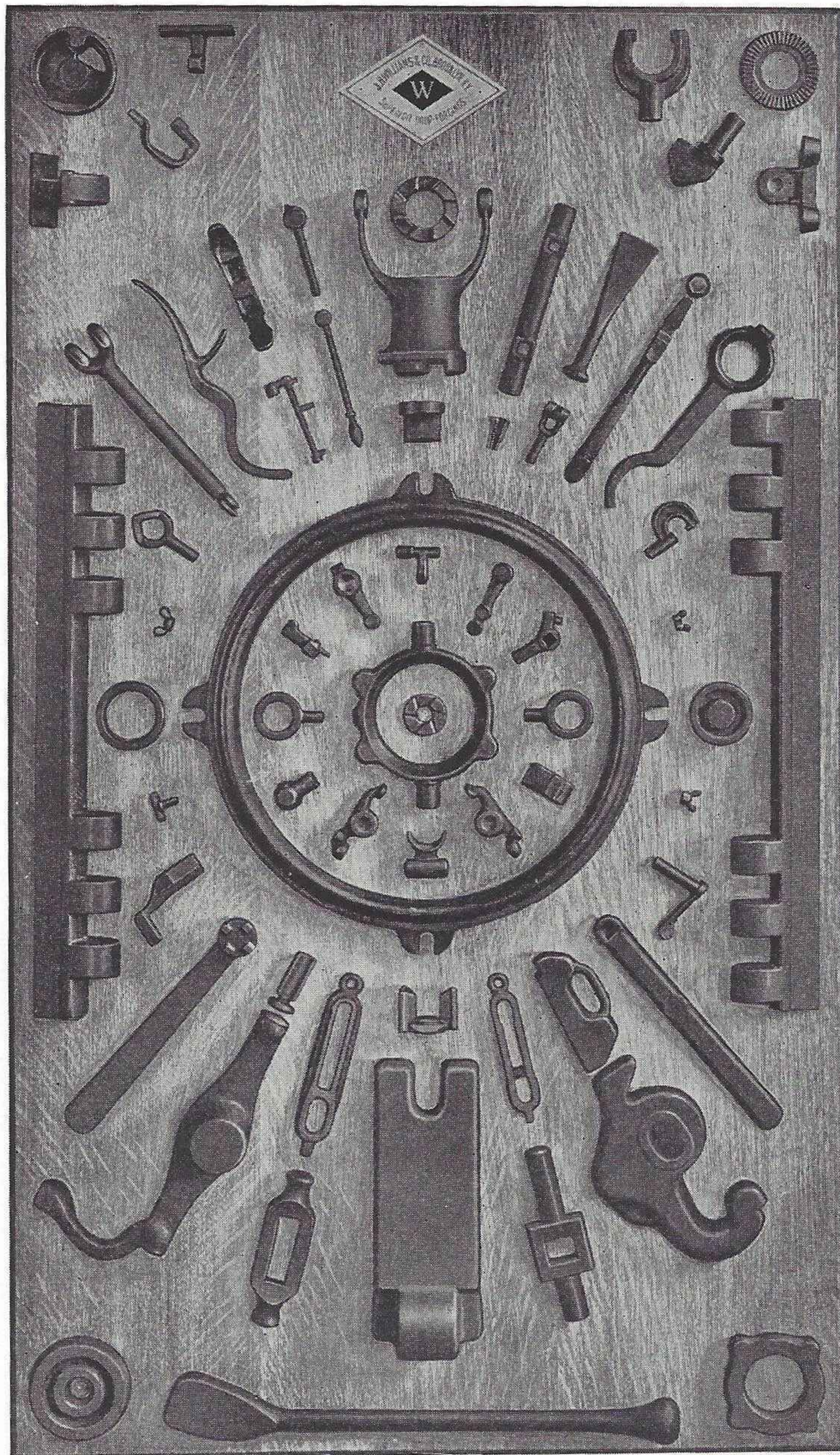


GUARANTEE

We guarantee all forgings to be free from imperfections of workmanship and material. We will gladly replace, without charge, any which prove defective, but we cannot allow claims for labor, or damages.

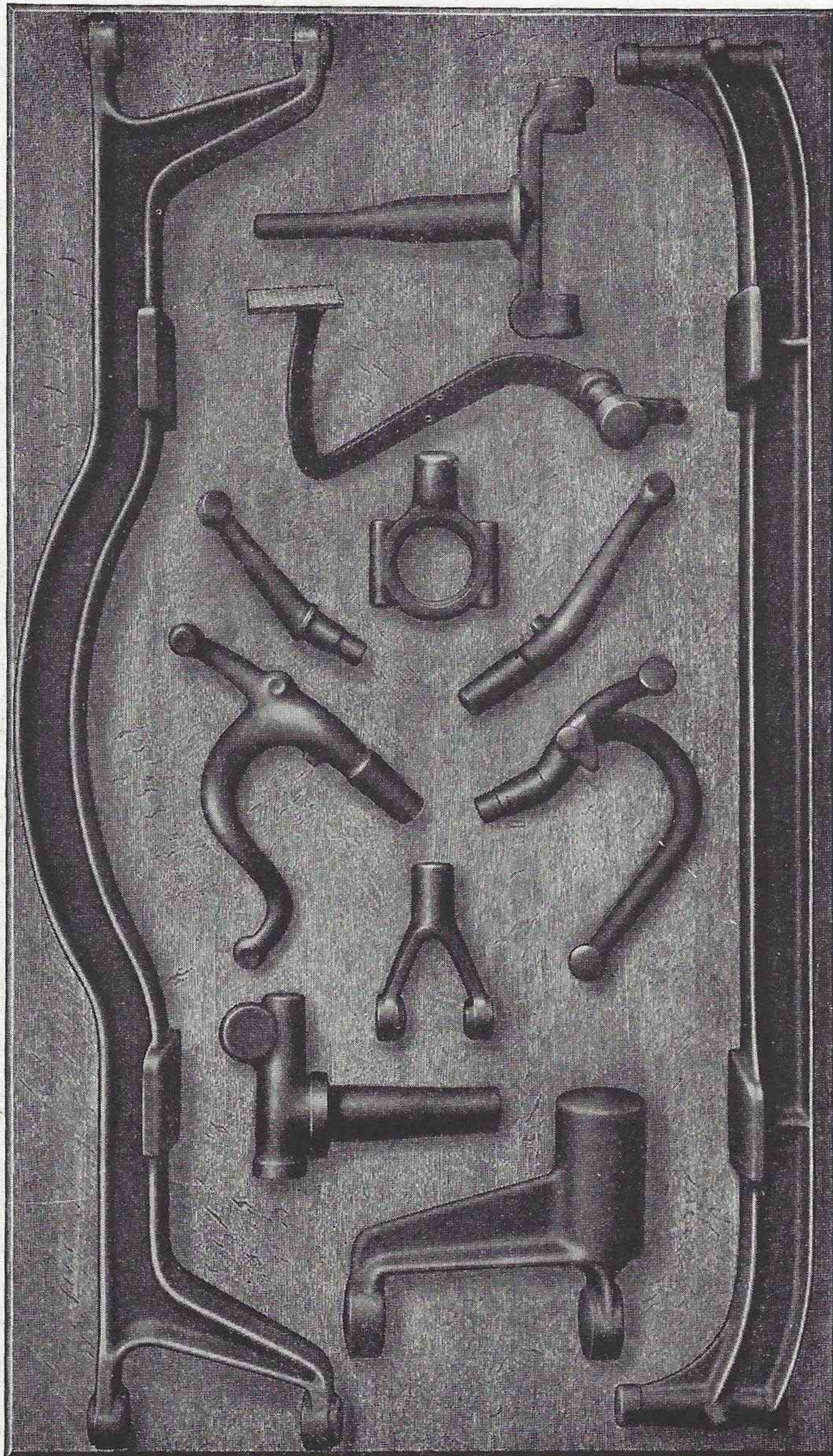
SUPERIOR
DROP-FORGINGS TO ORDER

Illustrations of Drop-forgings made to order; not for sale from stock



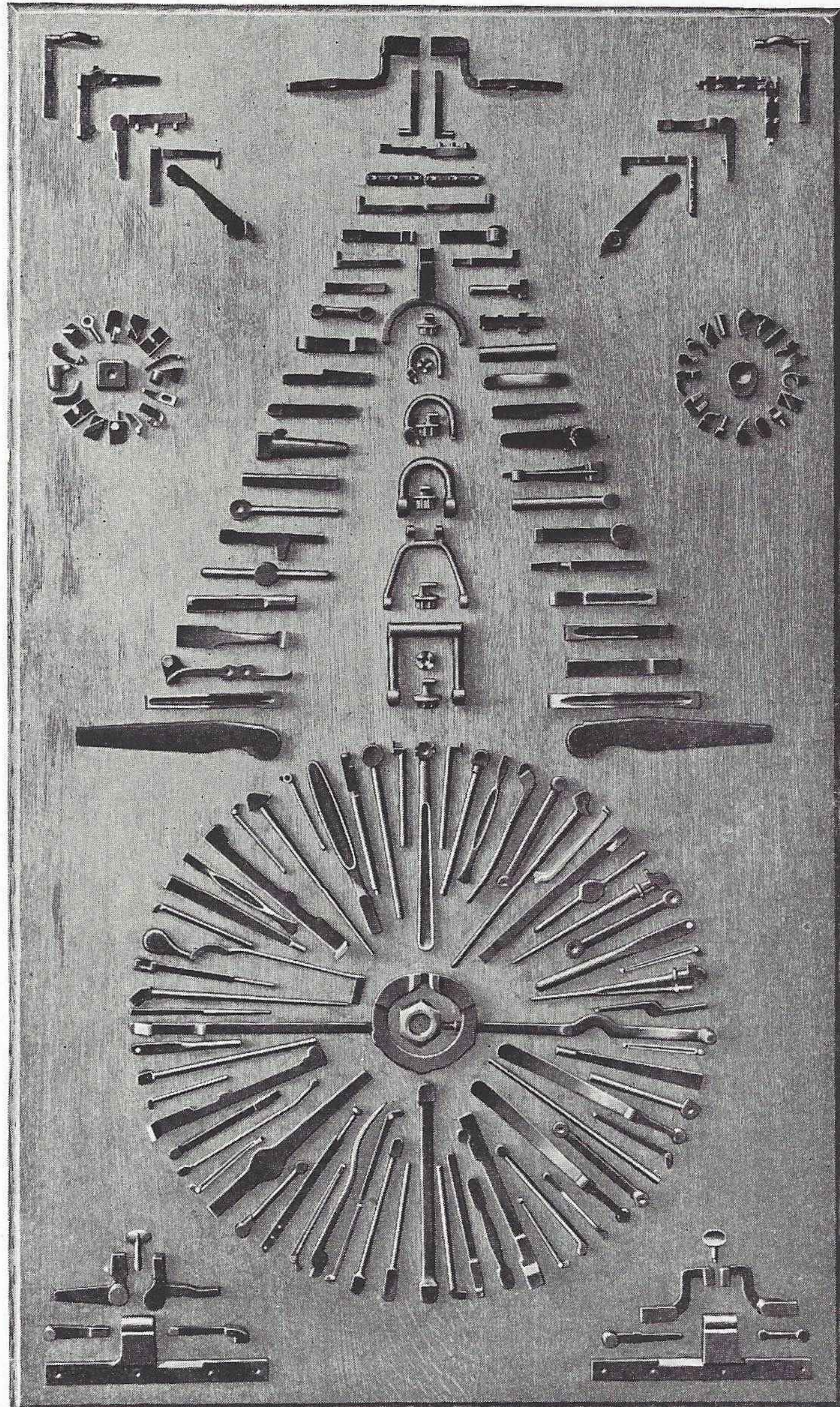
SUPERIOR
DROP-FORGINGS TO ORDER

Illustrations of Drop-forgings made to order; not for sale from stock



SUPERIOR
DROP-FORGINGS TO ORDER

Illustrations of Drop-forgings made to order; not for sale from stock



SUPERIOR
DROP-FORGINGS TO ORDER

Illustrations of Drop-forgings made to order; not for sale from stock

